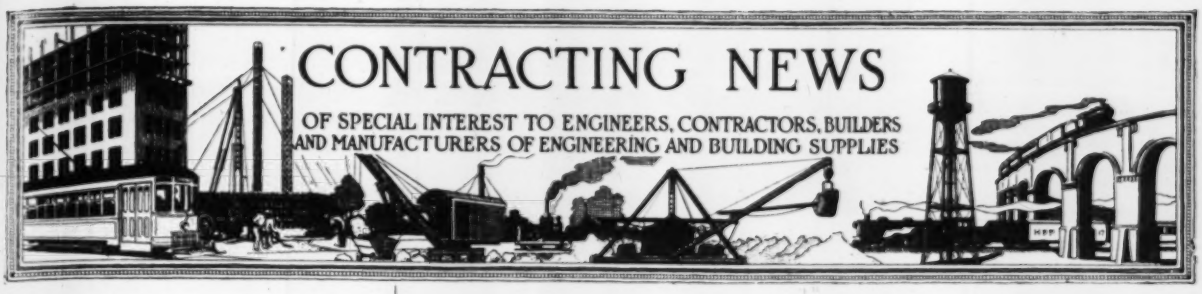
CONTRACTING NEWS
OF SPECIAL INTEREST TO ENGINEERS, CONTRACTORS, BUILDERS
AND MANUFACTURERS OF ENGINEERING AND BUILDING SUPPLIES

Proposals

For Proposals Advertised See Pages 50 to 58 Inclusive

WATER-WORKS

Bids Close		See Eng. News-Record
July 1.	Leeds, N. D.	June 7
July 1.	Fessenden, N. D.	June 7
July 1.	Strathroy, Ont.	June 21
July 2.	Hazen, N. D.	June 14
July 2.	Farmington, Ill.	June 21
July 2.	Augusta, Kan.	June 21
July 2.	East Liverpool, O. Adv. June 21.	June 21
July 2.	Shawano, Wis.	June 28
July 2.	Towner, N. D.	June 28
July 2.	Waverly, Ia. Adv. June 28.	June 28
July 3.	Chardon, O.	June 14
July 6.	Winchester, Ky.	June 21
July 10.	Duluth, Minn.	June 14
July 10.	New York, N. Y. Adv. June 14 and Adv. to 28.	June 21
July 12.	Cuba City, Wis. Adv. June 14 to 28.	June 28
July 17.	New York, N. Y. Adv. June 7 to 28.	June 14

SEWERS

July 2.	San Luis Obispo, Cal.	June 28
July 2.	Cincinnati, O.	June 28
July 2.	Gary, Ind.	June 28
July 2.	Youngstown, O.	June 28
July 2.	Graham, Tex.	June 28
July 2.	St. Paul, Minn.	June 28
July 3.	Davenport, Ia.	June 14
July 3.	Ankeney, Ia. Adv. June 21.	June 21
July 3.	Lambert, Miss.	June 28
July 3.	Brooklyn, N. Y.	June 28
July 6.	Cleveland, O. Adv. June 21 and 28.	June 21
July 6.	Lockport, Ill.	June 28
July 6.	Arthur, Ia.	June 28
July 7.	Bedford, O.	June 28
July 7.	Pine City, Minn.	June 21
July 9.	Brooklyn, N. Y.	June 28
July 10.	Beloit, Wis.	June 28
July 10.	Spirit Lake, Ia.	June 28
July 12.	Bridgeport, Conn. Adv. June 14 to 28.	June 14
July 12.	Neenah, Wis.	June 28
July 23.	Wingdale, N. Y. Adv. June 28.	June 28

STRUCTURAL STEEL WORK

June 30.	Birmingham, Ala.	June 28
July 1.	Akron, O.	June 21
July 2.	Fairview, Okla.	June 21
July 2.	Greenville, Miss.	June 21
July 2.	Visalia, Cal.	June 21
July 2.	Warren, Minn.	June 21
July 2.	Beach, N. D.	June 28
July 2.	Boston, Mass.	June 28
July 2.	Bridgeport, Conn. Adv. June 28.	June 28
July 3.	Mt. Vernon, Wash.	June 28
July 3.	Johnstown, Pa. Adv. June 21 and 28.	June 28
July 6.	Corydon, Ind.	June 21
July 6.	Salem, Ore.	June 28
July 7.	Cleveland, O.	June 28
July 9.	Salem, N. J.	June 28
July 9.	Olympia, Wash.	June 28
July 10.	La Grange, Tex.	June 28
July 10.	Vincennes, Ind.	June 28
July 13.	Lansing, Mich.	June 28
July 15.	Orange, Tex. Adv. June 7 to 21.	June 7
July 17.	West Palm Beach, Fla. Adv. June 21.	June 21
Aug. 2.	Miami, Fla. Adv. June 28.	June 28

Bids Close		See Eng. News-Record

REINFORCED CONCRETE

July 2.	Hamlin, W. Va.	June 14
July 2.	Warren, Minn.	June 21
July 3.	Westfield, N. J.	June 28
July 5.	Plainfield, N. J.	June 28
July 5.	Kankakee, Ill.	June 28
July 5.	Rahway, N. J.	June 28
July 5.	Lawrence, Mass. Adv. June 21 and 28.	June 28
July 9.	Alexandria, Minn.	June 28
July 9.	Barberton, O.	June 28
July 9.	Camden, N. J. Adv. June 28.	June 28
July 10.	Montezuma, Ga.	June 21
July 15.	Kansas City, Kan.	June 28
July 16.	Berkeley Springs, W. Va.	June 28
July 17.	Geneva, Neb.	June 28
July 17.	New Brunswick, N. J. Adv. June 28.	June 28

STREETS AND ROADS

June 30.	Cumberland, Md.	June 28
July 1.	Pine City, Minn.	May 31
July 2.	Hamlin, W. Va.	June 7
July 2.	Frederick, Md.	June 14
July 2.	Indiana	June 14
July 3.	Indiana	June 14
July 2.	Martinez, Cal.	June 21
July 2.	Waterville, Wash.	June 21
July 2.	Shelton, Wash.	June 21
July 2.	San Jose, Cal.	June 21
July 2.	Buhl, Minn.	June 21
July 2.	Fowler, Ind.	June 28
July 2.	Jefferson, O.	June 28
July 2.	Schuylkill Haven, Pa.	June 28
July 2.	Kalama, Wash.	June 28
July 2.	East Liverpool, O.	June 28
July 2.	Newport, Ark.	June 28
July 3.	Jersey City, N. J.	June 28
July 3.	Lafayette, Ind. Adv. June 21 and 28.	June 21
July 3.	Rutherford, N. J.	June 21
July 3.	Delphi, Ind.	June 28
July 3.	Salt Lake City, Utah	June 28
July 3.	Trenton, N. J.	June 28
July 3.	Winnetka, Ill.	June 28
July 3.	Greenville, Ind.	June 28
July 5.	Ventura, Cal.	June 28
July 5.	Glencoe, Ill.	June 28
July 5.	Tarrytown, N. Y. Adv. June 21 and 28.	June 28
July 6.	Vancouver, Wash.	June 21
July 6.	South Bend, Wash.	June 28
July 6.	Ventura, Cal.	June 28
July 6.	St. Johnsville, N. Y. Adv. June 21 and 28.	June 28
July 7.	Selma, Ala.	June 28
July 9.	Winfield, W. Va. Adv. June 14.	June 21
July 9.	Albany, N. Y. Adv. June 21 and 28.	June 21
July 9.	East View, O.	June 28
July 9.	Clarksburg, W. Va.	June 28
July 10.	Putnam, Va. Adv. June 21 and 28.	June 21
July 10.	Erwin, Tenn.	June 21
July 10.	Aberdeen, Miss.	June 21
July 10.	West New York, N. J.	June 28
July 10.	Rockville, Md. Adv. June 28.	June 28
July 11.	Washington, Pa.	June 28
July 11.	Mt. Holly, N. J. Adv. June 28.	June 28
July 12.	Olean, N. Y. Adv. June 28.	June 28
July 12.	Newark, N. J.	June 28
July 13.	Cincinnati, O.	July 28
July 14.	Indiana	June 14
July 14.	Pine Bluff, Ark.	June 28
July 16.	California	June 28
July 18.	Belvidere, N. J. Adv. June 28.	June 28
July 19.	Flemington, N. J.	June 28
July 24.	Pennsylvania	June 28
Aug. 13.	Lewiston, Idaho	May 24

EXCAVATION AND DREDGING

June 30.	Arcadia, Fla.	June 14
June 30.	Tuscola, Ill.	June 21
June 30.	Newton, Ia.	June 21
July 2.	Trenton, N. J. Adv. June 21 and 28.	June 21
July 2.	Grundy Center, Ia.	June 21

Bids Close		See Eng. News-Record
July 6.	Savanna, Ill. Adv. June 21 and 28.	June 21
July 6.	Central Islip, N. Y. Adv. June 21-88.	June 28
July 6.	West Haverstraw, N. Y. Adv. June 21-28.	June 28
July 12.	Madison, S. D.	June 28
July 12.	Boone, Ia.	June 28
July 12.	Redwood Falls, Minn.	June 28
July 14.	Cambridge, Minn.	June 28
July 16.	Hanna, Ill. Adv. June 28.	June 28
July 18.	Glenwood, Ia. Adv. June 21 and 28.	June 21
July 19.	Greenville, Miss. Adv. June 21 and 28.	June 28
July 20.	St. Cloud, Minn.	June 21

BUILDINGS

July 1.	Magnolia, Ark.	June 14
July 1.	Riverton, Minn.	June 7
July 2.	Portsmouth, O.	June 21
July 3.	Orange, Tex.	June 28
July 5.	Cleveland, O.	June 28
July 9.	Cleveland, O.	June 14
July 10.	Almont, N. D.	June 28
July 10.	Rocky River, O.	June 28
July 10.	Huron, S. D.	June 21
July 12.	Philadelphia, Pa. Adv. June 21 and 28.	June 28
July 16.	Great Bend, Kan.	June 28
July 18.	Concordia, Kan.	June 28
July 19.	Shenandoah, Ia.	June 28
July 23.	Columbus Jct., Ia.	June 28
July 30.	Ft. Wayne, Ind.	June 28

FEDERAL GOVERNMENT WORK

June 30.	Detroit, Mich. Adv. June 7 and 14.	June 14
June 30.	Memphis, Tenn. Adv. June 21.	June 21
June 30.	Tompkinsville, N. Y. Adv. June 28.	June 28
July 2.	St. Louis, Mo.	June 21
July 2.	Memphis, Tenn. Adv. June 21 and 28.	June 21
July 2.	Washington, D. C.	June 28
July 5.	Wilmington, Del. Adv. June 14 to 28.	June 14
July 5.	Topeka, Kan.	June 21
July 5.	Wilmington, Del.	June 21
July 5.	New York, N. Y. Adv. June 21 and 28.	June 21
July 9.	Glenwood, Ia. Adv. June 21 and 28.	June 28
July 9.	Annapolis, Md.	June 28
Aug. 9.	Du Bois, Pa.	June 28
July 10.	Buffalo, N. Y. Adv. June 14 to 28.	June 14
July 10.	Buffalo, N. Y.	June 21
July 10.	Washington, D. C. Adv. June 21 and 28.	June 28
July 11.	Vicksburg, Miss. Adv. June 21 and 28.	June 21
July 12.	Hoopeston, Ill.	June 7
July 16.	Newburyport, Mass.	June 14
July 16.	Charleston, W. Va.	June 28
July 18.	St. Ignatius, Mont. Adv. June 21.	June 21
July 20.	Ft. Fairfield, Me.	June 21
July 23.	Cincinnati, O. Adv. June 21 and 28.	June 28
July 26.	Gallatin, Tenn. Adv. June 21 and 28.	June 28
July 27.	Vernon, Tex.	June 28

MISCELLANEOUS

July 2.	Retaining Wall — Clifton, Ariz. Adv. June 21.	June 21
July 5.	Coal—Ionia, Mich. Adv. June 28.	June 28
July 9.	Marble Wainscoating—Media, Pa.	June 28
July 12.	Refrigerating Equipment—Thiells, N. Y. Adv. June 21 and 28.	June 21
July 13.	Freight Conveyors—Albany, N. Y. Adv. June 21 and 28.	June 21

Where name of official is not given, inquiries should be addressed to City Clerk, County Clerk or corresponding official.

WATER-WORKS

Proposed Work

Tenn., Trezevant—City election July 17 to vote on $12,500 bonds to extend and improve water system. Noted Apr. 5.

O., Alliance—City appropriated $10,000 to improve filter tanks. J. O. Stanley, supt.

O., Lewisburg—City election July 9th to vote on $10,000 bonds to extend and improve water system. G. Wilson, supt.

Ill., Canton—City soon receives bids for improving water-works. J. P. Gallagher, supt.

Ill., East Chicago—East Chicago & Indiana Harbor Water Co. having plans prepared by Metcalf & Eddy, engrs., 111 West Monroe St., Chicago, for filtration plant. About $80,000. E. Jenkins, 4735 Olcott Ave., supt.

Ill., Salem—City plans to install water mains in various streets. About $40,000. A. Kell, mayor. Caldwell Engr. Co., Ayers Bldg., Jacksonville, engr.

Wis., Niagara—City retained W. S. Shields, engr., 8 South Dearborn St., Chicago, to prepare plans for water and sewerage systems, artesian wells, elevated steel tank, etc. About $25,000.

Minn., Duluth—City will extend water and gas mains for 2 mi. from 84th Ave., W., to intersection of Commonwealth and Zimmerly Aves. About $50,000. Reed, mgr.

Minn., Plainview—Village voted $11,000 bonds to improve water system.

Kan., Chanute—City had plans prepared by Black & Veatch, engrs., 507 Interstate Bldg., Kansas City, Mo., for filtration plant, 2,000,000-gal. capacity. About $100,000. C. G. Wood, clk.

Kan., La Crosse—City soon lets contract for water-works and electric light improvements. About $50,000. W. B. Rollins & Co., 209 Railway Bldg., Kansas City, Mo., engrs. Noted June 14.

N. D., Langdon—City having plans prepared by T. R. Arnold, engr., Leland Hotel, Minot, for installing water-works and sewers. J. Sheehan, clk.

Mont., Denton—City plans election to vote on $50,000 to $60,000 bonds to install water-works system.

Tex., Dallas—See "Structural Steel."

Okla., Quinton—Town plans election to vote on bonds to build water-works system.

Okla., Rocky—City election June 28 to vote on $20,000 bonds for waterworks and electric light plant.

Colo., Colorado Springs—City having plans prepared for addition to reservoir No. 4 to increase capacity from 660,000,000 gal. to 864,000,000 gal. About $35,000. B. Reynolds, supt.

Wash., Pullman—See "Streets and Roads."

Wash., Seattle—Co. Comrs. ordered installation of pipe line in Water Dist. No. 5 from Kirkland under Lake Washington to Yarrow and Hunts Point. About $16,000.

Wash., Seattle—Bd. Pub. Wks. approved plans installing water mains in 10th Ave., N.E. et al. to cost $42,000. L. B. Youngs, supt.

Wash., Tacoma—Council passed ordinance to install cast-iron water mains in River St. et al. About $14,000. J. Nichol, supt.

N. B., Woodstock—City plans to install new water system in Connell Park. About $45,000. A. S. Field, supt.

Que., Hull—Council plans to install water mains. About $11,000. J. P. A. Laforest, city engr.

BIDS DESIRED

Wis., Cuba City—(Official)—Until July 12 by W. Brewer, village clk., for drilling deep well and installing new pump and motor, advertised in this issue.

Wis., Shawano—Until July 2 by B. Royer, pres. electric light and water comn., for furnishing high pressure non-condensing heavy duty Corliss engine and 3 motor-driven centrifugal pumps. Noted June 14.

Ia., Waverly—See "Reinforced Concrete."

N. D., Towner—Until July 2 by A. M. Berget, city aud., for underground reservoir.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★Pa., Burgettstown—Langeloth Townsite Co., Langleloth, let contract filtration plant to Pihl & Miller, Wabash Bldg., Pittsburgh, $100,000.

Pa., Phila.—City received low bids furnishing and laying 15,000 ft. pipe northeast section from C. D. Band, 28th and Cambria Sts., 23,300 ft., northwest section, from P. J. Snyder & Co., Bailey Bldg., $97,037; 13,500 ft. south and west sections, M. & J. B. McHugh, 892 North Market St., $47,886.

★O., Kenmore — (Official) — Village let contract improving waterworks to W. L. Slayton & Co., 636 Ohio Bldg., Toledo, $14,012.

★O., Kenton—City let contract installing 2 6,000,000-gal. pumps for water plant to Hill Pump Co., Anderson, Ind.

★O., Mansfield—City let contract improving water-works to Ideal Electric Co., 5th and Elm St.; J. Hursh and Mansfield Electric Light & Power Co., all of Mansfield.

★Minn., Madison—City let contract extension to water-works to J. A. Ray, Tracy.

★Kan., Beloit—City let contract water purification plant to E. Jones, Leavenworth, $23,085.

★Ont., Sudbury—Council let contract 500,000-gal. steel stand pipe to Chicago Bridge & Iron Co., Bridgeburg, $31,000. Noted May 24.

SEWERS

Proposed Work

N. J., New Brunswick—City plans to install sewers in 12 streets. A. Atkinson, city engr.

Pa., Meyersdale — See "Streets and Roads."

S. C., Spartanburg—City voted $40,000 bonds to extend sewerage system. R. Tull, city engr. Noted June 7.

Miss., Clarksdale—City soon lets contract installing sanitary sewerage system involving 4400 ft. 12- and 1600 ft. 8-in. vitr. sewer pipe, sewer, manholes, branches, etc. W. S. Bobo, city engr.

★O., Canton—City plans to install sanitary sewers portions Bonnot Pl., N. E. and St. Elmo Ave. N. E. W. E. Sarver, city engr.

O., Canton—City election in August to vote on $210,000 bonds to install east and west intercepting sanitary sewers. W. E. Sarver, city engr.

O., Hamilton—See "Streets and Roads."

O., Lima—City plans election in fall to vote on $1,000,000 bonds to install sewers. V. Miller, city engr. Noted May 31.

O., Linndale—Town to sell $12,590 bonds July 17 to install sewers in various streets. A. L. Wurstner, clk.

O., Mt. Vernon—City passed ordinance to install sanitary sewers portion Wooster Ave. W. C. Anderson, city engr.

O., Uhrichsville—Village receiving bids about July 15 installing sewage disposal plant and sanitary sewers. About $50,000. H. C. Snyder, clk.

Ind., New Palestine—City having plans prepared for storm sewer. C. Boone, Greenfield, supt. of constr.

Mich., Menominee — Council approved plans of T. R. Hasley, city engr., installing new sewer district. About $15,000. Noted June 7.

Ill., Chicago—Council approved plans installing sewers in northwest section of city. About $535,000. J. Ericson, city engr.

Ill., East Moline—City plans to install storm drainage system. About $250,000. A. Warnes, city engr.

Ill., Mason City—City rejected bids installing sewerage and drainage system as same were too high. About $20,000. W. G. Burnsmier, mayor. Noted June 7.

Ill., Springfield—City plans to repair damaged sewers. About $10,000. W. D. Seeley, city engr.

Wis., Milwaukee—Council plans to issue $400,000 bonds for Lake, Dakota Sts., and Delaware Ave. sewer extensions and Rush Ave. outlet. F. Stahl, supt.

Wis., Niagara—See "Water-Works."

Minn., Grand Meadow—City having plans prepared by Rose & Harris, engrs., 471 Auditorium Bldg., Minneapolis, for installing sewerage system and Imhoff tank. F. F. Forbes, clk.

Minn., St. Paul—Council approved plans to install sewers in Palace, Clarence and Forest Sts., Berkeley and Capitol Aves. O. Claussen, city engr.

Minn., St. Paul—Council plans to install sewers in Doswell, St. Lawrence, Arundel, Stinson, Mackubin, Lawson, Kent, Stanford, 6th, Wagner and Edgerton Sts., Pascal, Van Slyke and Como Aves., also Knapp Pl. O. Claussen, city engr.

N. D., Langdon—See "Waterworks."

Mont., Butte—See "Streets and Roads."

Mont., Great Falls—Council plans to issue $120,000 bonds to install drainage sewer along Valleria Way and $16,000 for sewer in 9th St. L. B. Evenson, city engr.

Ark., Stuttgart—City plans new storm sewer district to drain the western section of city. About $29,700.

Tex., Waco—State Attorney General's Dept. approved $25,000 bond issue to install sanitary sewerage system and $25,000 to improve streets. E. B. Gunley, city engr.

Okla., Frederick—City plans election to vote on bonds to install sewers and pave streets.

Okla., Miami—City plans election to vote on bonds for sewerage system.

Colo., La Junta—F. T. Lewis, city engr. prepared plans for sewerage system. About $20,000. Santa Fe R.R. will pay part of cost.

Idaho, Rupert—Council passed ordinance to install sewers in Local Sewerage Improv. Dist. No. 1. About $92,312. W. F. Scheffel, clk.

Utah, Ogden—City plans to install 3rd Ward sewerage system. About $172,000. J. M. Tracey, city engr.

Wash., Seattle—A. H. Dimock, city engr., submitted plans to Bd. Pub. Wks., estimating cost installing trunk sewer, Empire Way and 42nd Ave. S., et al., at $255,343.

Ore., Seaside—Council plans to rebuild east and west side sewerage systems. About $12,000.

N. S., Halifax—City soon lets contract installing sewers various streets. About $75,000. P. F. Martin, mayor.

Ont., Hamilton—City soon receives bids installing sewers in Charlton Ave. About $50,000. E. R. Gray, city engr.

BIDS DESIRED

N. Y., Brooklyn—Until July 3 by L. H. Pounds, boro. pres., for sewers in Kenmore, Elmore, Delamere and Mansfield Pl., East 36th St. and Ave. H.

N. Y., Brooklyn—Until July 9 by L. H. Pounds, boro. pres., for completing work including all labor, materials and incidentals of contract of Norton & Gorman Contr. Co., which was declared abandoned on May 15, for constructing sewers and appurtenances together with all work incidental thereto in 84th, 86th, Bay 38th, West 12th, Stillwell and other streets and avenues. Engineers preliminary estimate of work, $77,988.

N. Y., St. Johnsville—See "Streets and Roads."

N. Y., Wingdale—(Official)—Until July 23 by Comn. on New York Prisons, Room 615 Hall of Records, for sewage disposal plant at Wingdale Prison; advertised in this issue.

Miss., Lambert—Until July 3 by city installing 2 mi. sewers and septic tank. Noted June 14.

O., Bedford—(Official)—Until July 7 by H. T. Hubbell, village clk., installing sewer portion Blaine Ave.

O., Cincinnati—(Official)—Until July 2 by C. F. Hornberger, dir. pub. ser., improving sewers portion Adelphi St., Arnsby Pl. and Azelea Ave.

O., Youngstown—(Official)—Until July 2 by H. Parrock, dir. pub. ser., installing sewers in Albert and Jones Sts. and West Princeton and Rosedale Aves.

Ind., Gary—Until July 2 by City installing sewers various streets. About $11,000. W. P. Cottingham, city engr.

Wis., Beloit—(Official)—Until July 10 by Bd. Pub. Wks. installing sewers in 3 streets in Sewer Dist. "A," 28 streets in Dist "B," 15 streets in Dist. "C" and 4 streets in Dist. "D." G. E. Heebink, city engr.

Sewers (Continued)

Wis., Neenah—Until July 12 by Bd. Pub. Wks. installing 5300 lin.ft. sanitary sewers.

Ia., Arthur—(Official—Until July 6 by City installing 11,000-ft. sanitary sewers and septic tank. About $14,000. Noted June 14. F. Wheney, clk.

Ia., Spirit Lake—(Official)—Until July 10 by C. T. Noll, town clk., for sewerage and sewage disposal system, involving 10½-mi. sewers, Imhoff tank, dosing chamber, sludge bed and filter beds. C. H. Currie, Webster City, engr.

Minn., St. Paul—Until July 2 by H. W. Austin, city purch. agt., for installing storm water relief sewers in 6th and Wagner Sts., force main sewer in Edgerton St. O. Claussen, city engr.

Tex., Graham—Until July 2 by E. S. Graham, mayor, installing sewerage system and sanitary disposal plant. About $25,000. H. E. Elrod, Interurban Bldg., Dallas, engr. Noted May 24.

Cal., San Luis Obispo—Until July 2nd by City extending sewerage system involving 2-mi. 6-in. and 8-in. pipe. About $10,000. Noted May 3. W. B. Burch, city engr.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

Mass., Dorchester—City received low bid installing sewerage works in Almont St. from A. Cefalo, 316 Belgrade Ave., Roslindale.

★**N. Y., New York**—City let tunnel relief sewer and appurtenances portion West 46th St., Contract No. 2, to Melrose Constr. Co., 147 East 125th St., $83,630. Noted June 21.

N. Y., Scarsdale—(Official)—St. Comr. received low bids installing lateral sewers and appurtenances from J. Cuozzo, 179 Linden St., Yonkers, $25,319; F. Bracalello, Scarsdale, $39,507; Daly & Merritt, Port Chester, $46,842. Noted June 14.

N. J., Newark—Passaic Valley Sewerage Comrs. received low bids installing northerly portion of Section 27, Kearney-Harrison branch intercepting sewers, from Harrison & Craig, 837 Broad St., $104,662; Culp Co., Inc., East 43rd St., Paterson, $112,465; Dock Contr. Co., 95 River St., Hoboken, $127,650. Noted June 7.

★**Pa., Wilkinsburg**—See "Streets and Roads."

★**O., Dayton**—City let contract installing storm sewers portion West 5th St. and Vernon Pl. to T. P. Strack, and W. C. Kerschner & Son, $17,695 and $24,421 respectively.

★**Ill., Moline**—City let contract installing storm drains 19th St. and paving 25th St. Dist. with brick to McCarthy Improv. Co., 3rd and Perry Sts., Davenport, $12,708 and $37,490 respectively.

★**Wis., Juneau**—City let contract installing sanitary sewers to G. W. Mulholland, Rockford, Ill., $30,133; septic tank to A. E. Fuerbinger, Jefferson, $2850.

★**Wis., Kenosha**—Bd. Pub. Wks. let contract installing 6000 lin.ft. vitr. pipe sewer to Ostergaard & Ostergaard, Kenosha, $13,518.

★**Wis., Kimberly**—City let contract laying 1 mi. storm and sanitary sewers to Farnham & Yahr, Antigo, $21,000. Noted June 21.

★**Wis., Little Chute**—City let contract installing storm and sanitary sewers to Gray-Robinson Constr. Co., Manitowoc.

★**Wis., Osceola**—City let contract sanitary sewerage and water supply systems to W. C. Fraser, Germania Life Bldg., St. Paul, $30,000. Noted Apr. 17.

★**Wis., Racine**—City let contract installing sewers in Blake Ave. to P. Gavahan; Howe St. to R. Nelson; Hayes Ave. to Reichert Constr. Co.

★**Neb., Omaha**—Council let contract installing storm sewer from 37th and Sprague St. to 45th and Ohio St. to Nebraska Constr. Co., $57,000.

★**N. D., Bismarck**—(Official)—City let contract installing storm sewers to Gechney & Murphy, Minneapolis, $12,000. Noted June 14.

★**N. D., Fargo**—City let contract installing sewers portion 5th, 6th and 7th Sts., S., to Schruth & Jackson, Fargo, $15,195.

★**Mont., Terry**—City let contract installing sewerage system to Security Bridge Co., Billings, $13,050.

★**Tex., McKinney**—City let contract installing sewage disposal plant to McKinney Sewerage Co., McKinney. About $25,000. Noted June 14.

★**Ariz., Yuma**—City let contract installing 17,250 ft. sanitary sewers and 2570 ft. storm sewers to C. H. Julian, 303 American Bank Bldg., San Diego, Cal., $37,058.

★**Cal., Los Angeles**—City let contract installing sewer portion Victoria Park Dr. to W. A. Frick and J. Ukropina, $14,900. Noted June 21.

★**Cal., Watts**—See "Streets and Roads."

STRUCTURAL STEEL WORK

Proposed Work

Mass., Fall River—J. B. Parent had plans prepared for 3-story, 97 x 166-ft. steel addition. About $100,000.

N. J., Jersey City—Bd. Freeholders approved plans for 14th St. viaduct. About $58,000.

N. J., Rahway—Bd. Freeholders plan to build approaches to new Grand St. bridge. About $16,000. J. L. Bauer, Elizabeth, co. engr.

Va., Richmond—State Highway Dept. soon receives bids building bridge over Reedy Creek near Reedy. E. S. Gliden, Richmond, engr.

Ga., Newton—Baker and Mitchell Cos. plan to build bridge over Flint River at Newton. About $30,000.

Ga., Rome—County plans to build bridge over Etowah River. About $15,000.

Tenn., Knoxville—Louisville & Nashville R.R. plans to build 6 span bridge over Tennessee River to replace present structure. W. H. Courtenay, Louisville, Ch. Engr.

Mich., Detroit—City soon receives bids building bridge over Michigan Central R.R. on Vermont Ave. About $55,000. R. H. McCormick, city engr.

Ill., Chicago—Western Union Telegraph Co. plans 6-story steel building on La Salle St. About $1,000,000. C. H. Gaunt, 111 West Jackson St., supt. western div.

Ia., Waterloo—C. T. Wilson, city engr., submitted plans to council estimating cost building bridge over Black Hawk Creek at Wellington St. and Leland Ave. at $30,200.

Minn., Cass Lake—County to sell $11,000 bonds to build bridges.

Mo., Excelsior Springs—City election July 3 to vote on $12,500 bonds to build bridges.

Mo., Kansas City—Bd. Park Comrs. plan bridge over Cliff Dr. and Chestnut St. About $36,000. A. C. Harrington, secy. Harrington, Howard & Ash, Arear-Leslie Bldg., engrs.

Tex., Dallas—City plans steel water tank on White Rock reservoir to supply proposed municipal prison farm, about 40,000-gal. capacity.

Okla., Ada—See "Streets and Roads."

Okla., Alex.—See "Streets and Roads."

Okla., Antlers—See "Streets and Roads."

Idaho, Grangeville—County plans to build bridge over Salmon River. About $25,000; White Bird Dist. to appropriate $10,000, Deer Creek and Canfield Dists., $7500 each.

Wash., Kalama—Comrs. Cowlitz and Clarke Cos. approved plans 300-ft. span steel bridge over Lewis River between 2 counties. About $15,000. Address Clk. Cowlitz Co., Kalama.

Ore., Salem—State Highway Dept. prepared plans building inter-county bridge between Marion and Polk Cos. here. Bids will soon be received for substructure, superstructure and approaches, each to be awarded separately, Pratt trusses will be 4 in number, each 152-ft., together with 1 111-ft. and 1 155-ft. span; 6 river piers and 260-ft. approach on east end and 780-ft. trestle approach on west end. About $200,000. C. H. Purcell, engr.

Cal., Oakland—County and Southern Pacific Co. had preliminary plans prepared bascule bridge over estuary between Oakland and Alameda, beginning at 5th and Webster Sts. R.R., highway portion will include roadway 36-ft. wide and 10-ft. sidewalks. About $1,500,000. W. Hood, San Francisco, ch. engr. Noted May 10.

BIDS DESIRED

Mass., Boston—(Official)—Until July 2 by Metropolitan Park Comn., 18 Tremont St., building bridge over Neponset River between Boston and Quincey. J. R. Rablin, engr.

Conn., Bridgeport—(Official)—Until July 2 by Bd. Contr. & Supply, Room 23, City Hall, for sale of bridge superstructure; advertised in this issue.

N. J., Salem—Until July 9 by Bd. Freeholders for constructing Silverman Bridge on Woodstown Rd. and Tile Kiln Bridge on Yorketown Rd.

Pa., Johnstown—(Official)—Until July 3 by T. J. Harris, supt. sts. and pub. improv., City Hall, for improving Portage St. bridge; advertised in this issue.

Fla., Miami—(Official)—Until Aug. 2 by W. B. Moore, city clk., for bridge over Miami River; advertised in this issue.

Ala., Birmingham—Until June 30 by Bd. Revenue of Jefferson Co. for steel bridge over Warrior River. About $10,000.

O., Barberton—(Official)—Until July 9 by T. J. Davies, dir. pub. ser., for complete construction of concrete and steel viaduct known as Tuscarawas Ave. viaduct; advertised in this issue. Noted June 14 under "Structural Steel."

O., Cleveland—(Official)—Until July 7 by E. G. Krause, co. clk., for bridge work per report No. 4032.

Indiana—By Co. Comrs. building bridges as follows:

July 2: Spencer, 3 steel bridges. S. M. Royer, aud.

Danville: 3 arches, Center and Clay Twps. C. M. Haven, aud.

Lebanon: Building and repairing 7 bridges. C. Goodwin, aud.

Connersville: Bridge. Columbia Twp. G. Zell, aud.

Nashville: 2 rein.-con. bridges. O. Morrison, aud.

July 3: Decatur, building Bixler bridge. J. Mosure, aud.

Rensselaer: Building 3 steel bridges, repairing and removal of several others. J. P. Hammond, aud.

Monticello: 2 bridges. A. G. Fisher, aud.

Bloomfield: Bridge. Highland Twp. G. E. Kidd, aud.

Lawrenceburg: Bridges. Clay, Kelso, Manchester and Jackson Twps. H. E. Lutherbeck, aud.

Huntington: Rebuilding bridge Jackson Twp., repairing 1 Huntington Twp. O. E. Eviston, aud.

July 6: Kokomo, building and repairing several bridges. W. L. Benson, aud.

Mich., Lansing—Until July 13 by F. F. Rodgers, state highway comr., building trunk line bridge, No. 111, crossing Helmar Creek, Lakefield Twp.

N. D., Beach—Until July 2 by County for 200-ft. bridge over Garner Creek.

Tex., Lagrange—Until July 10 by Co. Comrs. for east approach to Colorado River Bridge, about 500 ft. long with 18-ft. roadway. R. Klatt, co. clk.

Washington—Until July 9 by State Highway Comn., Olympia, building Kalama River bridge, 2 170-ft. spans. Noted June 7.

Wash., Mt. Vernon—Until July 3 by Co. Comrs. building concrete piers, retimbering and rebuilding wooden spans and approaches bridge over Skagit River. About $23,000. E. Costello, co. engr. Bowerman & McCloy, Mutual Life Bldg., Seattle, engrs. Noted May 24.

Ore., Salem—(Official)—Until July 6 (date extended from June 20) by county for steel bridge over Williamette River, 4 152-ft., 1 155-ft. and 1 111-ft. spans carried on 6 piers. H. Nunn, state highway engr. Noted May 31.

Ont., London—See "Railways."

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Pa., Lewistown**—Pennsylvania R.R. let contract 5-span bridge over Juniata River to G. W. Rockwell, Sunbury. Noted May 4.

★**Pa., Oil City**—Pennsylvania R.R. let contract bridge over Red Bank and Clarion Rivers to T. L. Eyre, Commercial Trust Bldg., Phila.; bridge over Mahoning Creek to Whitaker & Diehl, Union Trust Bldg., Harrisburg.

Pa., Scranton—City received low bids building superstructure Parker St. bridge from Anthracite Bridge Co., Naers Bldg., $17,257 and C. L. Camp, $17,970.

★**N. C., Winston-Salem**—(Official)—County let contract bridge over Yadkin River near Donaha, to Vincennes Bridge Co., Vincennes, Ind., $27,300.

★**S. C., Gaffney**—Cherokee, Gaffney and York Co. Comrs. let contract building inter-county bridge over Broad St. to Southern Bridge Co., 39th St., Birmingham, $19,750. Noted May 31.

Structural Steel Work (Continued)

★**S. C., York**—City let contract steel bridge over Broad River to Southern Bridge Co., Birmingham, $19,750.

O., Columbus—City received low bids extension to Rich St. bridge from Capitol Constr. Co., Ruggery Bldg., $89,091; D. W. McGrath, New 1st Natl. Bank Bldg., $90,422; E. M. Sully, Columbus, $90,978. Noted June 4.

★**O., Youngstown**—Home Savings & Loan Co. let contract structural steel work on 10-story building, Chestnut and Federal Sts., to American Bridge Co., 30 Church St., New York City.

★**Ind., Bloomfield**—Co. Comrs. let contract building bridge over White River and Eel River Ditch to Vincennes Bridge Co., Vincennes, $19,948 and $8695 respectively.

★**Ind., Brookville**—County let contract steel bridge over east fork Whitewater River to Oregon Bridge Co., Lebanon, $26,739.

★**Ind., Columbus**—County let contract building additional span to St. Louis Crossing Bridge to A. Harmon, $11,414.

★**Ia., Des Moines**—County let contract for 25 bridges and culverts to N. M. Stark & Co., 1215 Mulberry St., $36,500.

★**Minn., Stewartville**—City let contract building bridge over Root River to J. P. Chase, Stewartville, $32,250.

★**Neb., Ord**—County let contract building bridges during year to Canton Bridge Co., Welver Bldg., Canton, O.

★**S. D., Redfield**—County let contract bridge over Turtle Creek to Iowa Bridge Co., 712 Hubbel Bldg., Des Moines, Ia., $16,000.

Idaho, Boise—See "Streets and Roads."

★**Wash., Winlock**—(Official)—City rejected bids opened June 5 for 70-ft. span steel bridge over Olequa Creek. Work will be done under supervision of R. W. Fletcher, city engr. Noted June 7.

REINFORCED CONCRETE

Proposed Work

Conn., Bridgeport—Connecticut Auto Mfg. Co., Connecticut Natl. Bank Bldg., having plans prepared by McE Walsh & Co., archts., Connecticut Natl. Bank Bldg., for rein.-con. auto sales building. About $80,000.

O., Columbus—Watson Eng. Co., 1150 Leader News Bldg., submitted plans to Co. Comrs. for 2 rein.-con. bridges over Olentangy River at Lane and 3rd Aves., with 4 spans and 30-ft. roadway and sidewalks. About $150,000 each.

O., Niles—City election July 24 to vote on $120,000 bonds to build 382-ft. bridge involving 4000 yd. concrete over Mahoning River at McDonald plant. H. W. Gurney, city engr. Noted May 31.

Ind., Lafayette—Chicago, Indianapolis & Louisville Ry. plans rein.-con. arch bridge. About $75,000. H. R. Kurrie, Chicago, pres.

Ill., Rockford—County received no bids building rein.-con. bridge over Sugar River, Harrison and Shirland Twps. New bids. A. R. Carter, co. supt. highways.

Wis., Milwaukee—Gemco Mfg. Co., 725 South Pierce St., having plans prepared by H. J. Esser, archt., Camp Bldg., for 3-story, 50 x 150-ft. rein.-con. addition. G. F. Discher, pres. and genl. mgr.

Wis., Racine—Racine Auto Tire Co. had plans prepared by R. H. Folwell, McCormick Bldg., Chicago, for 5-story, 260 x 320-ft., rein.-con. plant. L. Wright, Racine Sattley Bldg., secy. and treas.

Wis., Wausau—Council retained D. B. Luten, engr., Indianapolis, to prepare and estimate for rein.-con. bridge over Wisconsin River, 3-span structure to cost $55,000; single span, $80,000.

Minn., Owatonna—City rejected bids for rein.-con. bridge over Straight River, 2 65-ft. arches, 34-ft. roadway, 2 8-ft. sidewalks, etc. H. Dartt, city engr. Noted June 7.

Minn., St. Paul—City Council considering construction of rein.-con. viaduct to carry 4th St. from East 5th and John Sts. over railroad yards to connect with Commercial St. O. Claussen, city engr.

Kan., Beloit—A. E. Home, city engr., preparing plans rein.-con. bridge on Main St.

Neb., Grand Island—Comrs. Hall and Hamilton Cos. plan rein.-con. bridge over Platte River between 2 counties. About $70,000. Address Clk. Hall Co., Grand Island.

Mo., Osceola—See "Streets and Roads."

Okla., Okemah—Co. Comrs. receiving bids about July 1st building 50-ft. rein.-con. bridge and 130 concrete, stone and tile culverts. W. H. Patterson, engr.

BIDS DESIRED

Mass., Lawrence—(Official)—Until July 5 by Mayor and City Council for 2 rein.-con. bridges over Merrimack River. B. H. Davis, 17 Battery Pl., New York City, engr.; advertised in this issue. Noted June 14.

N. J., Camden—(Official)—Until July 9 by F. W. George, co. clk., Court House, for 3 span concrete arch bridge; advertised in this issue.

N. J., New Brunswick—(Official)—Until July 17 by Bd. Comrs., Comrs. Council Chambers, Dist. Court Room, Court House Bldg., Paterson St., concrete arched dam crossing Weston's Mill Pond near pumping station. A. Atkinson, city engr.; advertised in this issue.

N. J., Plainfield—Until July 5 by Bd. Freeholders, Elizabeth for rein.-con. bridge over Cedar Brook on Stelle Ave. J. L. Bauer, co. engr.

N. J., Rahway—Until July 5 by Bd. Freeholders, Elizabeth, for concrete arch bridge over Rahway River. J. L. Bauer, co. engr.

N. J., Westfield—Until July 3 by Bd. Freeholders, Elizabeth, for rein.-con. bridge on Washington St. J. L. Bauer, co. engr.

W. Va., Berkeley Springs—(Official)—Until July 16 by Co. Clk for 3 rein.-con. arch bridges. E. L. Miller, co. engr.

Ill., Kankakee—(Official)—Until July 5 by Comrs. Kankakee and Will Cos., Court House, Kankakee, for rein.-con. arch bridge over Kankakee River between 2 counties; 7 spans 70-ft. long and 2 spans 68 ft. long with 20-ft. roadway. Cost bridge proper, $43,000, culvert, approach, grades, spandrel fill and wearing surface, $7150.

Ia., Waverly—(Official)—Until July 2 by city installing 200,000-gal. rein.-con. reservoir and 1200-ft. 12-in. c.i. pipe, etc. F. A. Lee, clk., advertised in this issue.

Minn., Alexandria—Until July 9th by County, building steel and concrete bridge.

Kan., Kansas City—Until July 15 by City for 700-ft. rein.-con. viaduct approach, Central Ave. at Riverview. About $85,000. H. Payne, clk., Harrington, Howard & Ash, Orear-Leslie Bldg., Kansas City, Mo., engrs.

Neb., Geneva—Until July 17 by County for 2 40-ft. concrete bridges, 16-ft. roadway.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Conn., Bridgeport**—Singer Sewing Machine Co. let contract rein.-con. factory to Aberthaw Constr. Co., 27 School St., Boston. About $150,000.

Pa., Harrisburg—Co. received low bid rein.-con. bridge over Swatara Creek from Strucker Bros. Constr. Co., Russ Bldg., $26,890.

Pa., Johnstown—T. J. Harris, supt. sts. and pub. wks., received low bid for rein.-con. bridge over Little Conemaugh River on Walnut St. from Hackedorn Contr. Co., 1134 Indianapolis Pythian Bldg., $49,767. Noted June 7.

★**Pa., Phila.**—Phila. & Reading Ry. let contract rein.-con. arch over Schuylkill River, to Seeds & Derham, waterproofing and structure to Minwax Waterproofing Corp. Noted June 21.

★**Miss., Charleston**—See "Streets and Roads."

★**O., New Phila.**—(Official)—Co. Comrs. let contract rein.-con. arch bridge over Little Stillwater Creek to M. Wardell-Dennison Bldg., Strasburg, $18,600; beam bridge over Beaver Dam Creek to F. McClain, New Phila., $5000. Noted May 24.

★**Minn., Morgan**—City let contract rein.-con. bridge over Minnesota River to Waddell & Hohley, Minneapolis.

★**Tex., Farwell**—Co. Comrs. let contract building rein.-con. bridges and culverts, also grading on 4-mi. highway to O. C. McErain, Gilmer, $22,780.

Idaho, Boise—See "Streets and Roads."

★**Idaho, Boise**—State Highway Comn. let contract 26 rein.-con. bridges and 11 steel bridges to C. H. Mull, Twin Falls, $24,400 and J. H. Forbes, Caldwell, $14,700.

★**Nev., Las Vegas**—Bd. Educ. let contract rein.-con. high school to Edwards & Wildey Co. About $50,000.

★**Cal., Oakland**—Albers Bros. Milling Co., 332 Pine St., let contract rein.-con. flour mill to Masow & Morrison, Monad Bldg., San Francisco, $180,000.

★**Que., Grand Mere**—Canadian Northern Ry. let contract rein.-con. bridges to J. Gosselin, Ltd., Levis, $50,000.

★**Que., Ste Angele de Laval**—Provincial Government and Municipalities Ste Angele de Laval and Gregorie let contract rein.-con. bridge to N. Guillemette, Three Rivers, $23,000.

STREETS AND ROADS

Proposed Work

N. Y., Niagara Falls—City sold $90,000 bonds to repave Main St. F. S. Parkhurst, city engr.

N. J., Caldwell—Bd. Freeholders, Newark, plan to pave Bloomfield Ave. About $121,500.

N. J., Camden—Council plans to pave Mickle and 9th Sts. also Langham Ave., sheet asphalt, concrete foundation. W. D. Brown, clk.

N. J., Cedar Grove—Bd. Freeholders, Newark, plan to pave Little Falls Rd. About $57,600.

N. J., Collingswood—Boro plans to pave 5 mi. streets, macadam, and 2 mi. Haddon Ave., Belgian Block, concrete foundation. J. Remington, 6th and Market Sts., Camden, boro. engr.

N. J., Long Branch—City plans to resurface Norwood Ave. About $50,000.

N. J., Newark—City plans to pave portions East and West Peddie and Parkhurst Sts., sheet asphalt on 6-in. concrete foundation. M. R. Sherrard, city engr. Noted May 4.

N. J., Newark—Bd. Freeholders, Newark, plan to pave Central Ave. About $45,000.

N. J., New Brunswick—Bd. Freeholders having plans prepared paving Sect. 3, New Brunswick-Old Bridge turnpike and from Drury's Hill to Main St., South River. A. B. Fox, 137 Smith St., Perth Amboy, co. engr.

N. J., Paterson—Finance Comn. appropriated $35,000 to resurface and improve streets. H. J. Hardes, city engr.

N. J., Salem—County lets contract in August paving 3.6-mi. road, concrete. J. S. Sparks, asst. co. engr.

Pa., Harrisburg—City passed ordinance to pave Hillside and Vineyards Rds., Bellevue Park. M. B. Cowden, city engr.

Pa., Meyersdale—City election July 10 to vote on $14,000 bonds to improve streets and $6000 to extend sewers.

Pa., Pittsburgh—City plans to pave, grade and curb portion Tokio St. R. Swan, city engr.

W. Va., Fayetteville—(Official)—County received no bids grading and draining James River and Kanawha Turnpike, Falls Dist., from Kanawha Co. line to Mountain Cove Dist. line, 14.5 mi., including retaining walls. T. F. Malloy, Landisburg, rd. engr. Noted May 17.

W. Va., Fayetteville—(Official)—County rejected bids building road from Thurmond to Echo Mountain Rd., 1.8 mi., including retaining walls, Sewell Mountain Dist. T. F. Malloy, dist. rd. engr. Noted May 17.

N. C., Clinton—Co. Comrs. voted $25,000 bonds to build roads. J. H. Parker, secy.

S. C., Saluda—County plans to build road from Ridge Spring to Greenwood Co. line. Cost, $44,000; Federal Government to appropriate $22,000 toward project.

Ga., West Point—City voted $20,000 bonds to pave, grade, drain and macadamize streets. J. T. Johnson, mayor. Noted May 10.

Ala., Gadsden—City plans to issue $41,000 bonds to pave portion Walnut St. E. Smith, city engr.

Miss., New Augusta—County issued $200,000 bonds to build roads.

La., Edgard—County voted $180,000 bonds to build roads.

Tenn., Knoxville—City Comrs. soon lets contract resurfacing portion Main, Church, Union and Jackson Aves.; also Central and Gay Sts. J. B. McCalla, city engr. Noted May 31.

O., Canton—City plans to issue $19,000 bonds to improve portion 8th St. and $10,000 bonds to purchase land for opening Belden Ave. N. E. from Tuscarawas St. E. to 2nd Et. N. E. E. Sarver, city engr.

O., Cleveland—Bd. Control plans to pave portion East 9th St., cost, $30,000; St. Clair Ave., $69,000. R. Hoffman, city engr.

O., Cleveland—City plans to pave and improve portions East 73rd, East 105th,

Streets and Roads (Continued)

East 133rd, East 106th and West 44th Sts.; also repave portion Broadway Ave. R. Hoffman, city engr.

O., Cleveland—City plans to pave portion Bway. Hill, dressed block stone, cost, $32,090; East 105th St., $12,500; West 44th St., $7100; East 73rd and Wagner Ave., $10,593. R. Hoffman, city engr.

O., Columbus—Council appropriated $75,000 for widening portion North High St. H. Maetzel, city engr.

O., Hamilton—Council plans to build sidewalks, curbs and gutters and install sanitary sewers on Shuler Ave. F. Weaver, city engr.

O., Logan—Boro. receiving bids about July 15 paving, grading and curbing Canal St., involving 1200-ft. brick, stone curbs. About $11,000. R. Bowen, boro. engr.

O., London—Village election July 2 to vote on $45,000 bonds to improve portion North Main and East High Sts. J. Byers, clk. Clark & McCafferty, engrs.

O., Ravenna—County sold $102,000 bonds to improve I. C. H. Rd. No. 60 and No. 18, Sect. V and No. 87, Sect. N. M. J. Kelly, co. aud. Noted May 24.

Ind., Indianapolis—City and Hoosier Motor Club plan to reconstruct Massachusetts Ave. B. J. T. Jeup, city engr., estimates cost of work at $100,000.

Ind., Kendallville—City plans to pave 10 streets.

Ind., Richmond—County to sell $48,000 bonds July 16 to improve Thomas G. Dunbar Highway, Center Twp. L. S. Bowman, aud.

Ill., Chicago—City plans to pave portion Bway., creosote. About $110,000. J. Ericson, city engr.

Ill., Lewistown—County plans to spend $16,000 to build roads. E. F. Motsinger, Canton, co. supt. highways.

Ill., Rockford—Co. Supervs. plan to spend $30,000 to improve Cedarville Rd.

Ill., Rock Island—Bd. Local Improv. approved plans to pave portion 11th St. About $13,024. W. Treichler, city engr.

Wis., Parker—City soon lets contract paving various streets, asphalt. About $35,000. E. E. Parker, city engr.

Wis., Wauwatosa—Council voted to issue $15,000 bonds to improve streets.

Ia., Mason City—(Official)—City receiving bids about July 20 paving 3 mi. road from Mason City to Clear Lake. About $65,000. Address A. M. Grimm, Clear Lake. Noted June 14.

Minn., St. Paul—County plans to spend $30,000 to improve roads and $6000 to oil same; plans include resurfacing 1 mi. North St. Paul Rd., 2 mi. Edgerton, 2 mi. Brighton Rds., ½ mi. Lexington Ave., 1½ mi. Rice St.

Kan., Hiawatha—Co. Comrs. plan to pave 24 mi. roads in county along Pikes Peak Ocean to Ocean Highway.

Kan., Salina—Council voted to issue $41,500 bonds to pave and gutter portion Phillips, 12th. 10th, Walnut and Bishop Sts. P. G. Wakenhut, city engr.

Kan., Topeka—City plans to spend $10,000 for paving 30 blocks with asphalt. A. R. Young, city engr.

Mont., Billings—City receiving bids about Aug. 1, paving 37,000 sq.yd. streets, concrete, asphaltic concrete or bitulithic. E. M. Sneckonberger, city engr.

Mont., Butte—Council created Special Improv. Dists. Nos. 231 and 232, work in Dist. 231 involves repaving Park St., guttering, etc., cost, $18,000; Dist. 232 involves concrete walks, grading, sewers, etc. $25,000. J. J. Armstrong, city engr.

Mo., Miami—County election July 12 to vote on $40,000 bonds to build roads.

Mo., Osceola—Bd. Supervs. plan to issue $400,000 bonds to grade roads and build bridges on State roads.

Tex., Bandera—State Attorney General's Dept. approved $22,000 bond issue to build roads, County Rd. Dist. No. 1.

Tex., Bay City—State Attorney General's Dept. approved $20,000 bond issue to build roads, County Rd. Dist. No. 10.

Tex., Waco—See "Sewers."

Okla., Ada—County election July 14 to vote on $650,000 bonds to build roads and bridge over South Canadian River. Noted June 21.

Okla., Alex—City defeated $28,000 bonds to build roads and bridges. Noted May 10.

Okla., Antlers—County election July 10 to vote on bonds to build roads and bridges.

Okla., Frederick—See "Sewers."

Okla., Miami—County election July 12 to vote on $400,000 bonds to build rock and concrete roads. Noted June 7.

Okla., Prague—County defeated $25,000 bonds to build roads, Creek Twp. Noted May 24.

Okla., Stigler—County plans election to vote on $20,000 bonds to build roads, Center Twp.

Wash., Everett—H. Mumm, Jr., city engr., estimated cost paving portion Everett Ave. at $18,905.

Wash., North Yakima—County soon lets contract improving 3-mi. highway between Union Gap and Parker, asphaltic concrete, bitulithic, etc. About $28,000.

Wash., Pullman—County soon receives bids paving 8000 sq.yd. and extending water system College Park addition.

Wash., Tacoma—City plans to repave portion Pacific Ave., bitulithic. About $13,391. W. C. Raleigh, city engr.

Ore., Astoria—State Highway Comn., Salem, plans to spend $34,000 to improve Columbia River Highway, Clatsop County.

Cal., Santa Ana—Bd. Superv. soon lets contract paving and building concrete and timber culverts in Rd. Dist. No. 2. About $64,850. W. J. Redshaw, Fullerton, engr.

Que., Quebec—City plans to improve roads. About $50,000. W. D. Baillairge, city engr.

Que., Ste. Genevieve de Batiscan—Council plans to gravel roads. About $30,000. T. Trudel, clk. and secy.

Man., Portage La Prairie—City plans to spend $300,000 bonds to build roads. R. Pride, engr.

Man., Swan River—City plans to spend $50,000 to build roads. J. Armstrong, clk.

BIDS DESIRED

N. Y., Olean—(Official)—Until July 12 by E. E. Allen, supt. sts., paving portion 9th St., brick; advertised in this issue.

N. Y., St. Johnsville—(Official) — Until July 6 by Bd. Trustees for 12,000 sq. yd. bituminous pavement on concrete foundation and about 2000 ft. 18- and 20-in. storm sewers on North Division and Center Sts. M. Vrooman, 101 North Main St., Gloversville, engr.; advertised in this issue.

N. Y., Tarrytown—(Official)—Until July 5 by Bd. Trustees, Corp. Rooms, Main St., for paving and improving Bway. J. W. Cole, village clk.; advertised in this issue.

N. J., Belvidere—(Official)—Until July 18 by Bd. Freholders for resurfacing 5.527 mi. road. H. W. Vetter, co. clk.; advertised in this issue.

N. J., Flemington—Until July 19 by Bd. Freeholders, paving 2 mi. Bristol-West Portal Rd.

N. J., Jersey City—Until July 3 by Bd. Comrs., paving portion Germania Ave., Belgian block. C. A. Van Keuren, city engr.

N. J., Mt. Holly—(Official)—Until July 11 by Bd. Freeholders for improving Moorestown-Camden Pike, Chester Twp. J. Logan, 11 Main St., co. engr., advertised in this issue.

N. J., Mt. Holly—(Official)—Until July 11 by Bd. Freeholders for improving Pemberton-Lewistown Rd., Pemberton Twp. J. Logan, 11 Main St., co. engr. advertised in this issue. Noted June 14.

N. J., Mt. Holly—(Official)—Until July 11 by Bd. Freeholders for improving Jobstown Pike, Northampton, Easthampton and Springfield Twps. J. Logan, 11 Main St., co. engr., advertised in this issue.

N. J. Newark—(Official)—Until July 12 by Bd. Freeholders, improving Little Falls Rd., Cedar Grove Twp. W. Cardwell, chn. Noted May 24.

N. J., Trenton—(Official)—Until July 3 by Bd. Freeholders, building Sect. 3, River Rd., Hopewell Twp., bituminous concrete, macadam foundation, involving 2874 sq.yd. pavement and foundation. F. McCullough, clk.

N. J., West New York—Until July 10 by C. Swenson, town clk., for paving Bergenline Ave. About $25,000. Noted May 4.

Pennsylvania—(Official)—Until July 24 by State Highway Comn., Harrisburg, for building roads in Armstrong, Beaver and McKean Cos., vitr. block and waterbound macadam. F. B. Black, comr.

Pa., Schuylkill Haven—Until July 2 by Boro. paving and curbing 10,000-sq.yd. on Canal, Main and St. John Sts., brick and concrete. G. W. Butz, 205 Centre Ave., boro. engr.

Pa., Washington—(Official)—Until July 11 by T. J. Underwood, co. controller, resurfacing 4800 ft. Taylorstown Rd. and 1 mi. Burgettstown-South Rd.

Md., Cumberland—(Official)—Until June 30 by Mayor and City Council paving 7 streets involving 18,000 sq.yd. concrete paving, 9000 lin.ft. concrete curb. R. L. Rizer, city engr. Noted June 14.

Md., Rockville—(Official)—Until July 10 by B. E. Berry, co. clk., for State Aid highway; advertised in this issue.

W. Va., Broad Oaks—(Clarksburg P. O.)—Until July 9 by Council paving Howard and Buckhannon Ave., involving 4500 sq.yd. pavement, 4000 lin.ft. concrete curb. J. N. Craddock, mayor. Noted May 24.

Ala., Selma—Until July 7 by City paving 25,000-sq.yd. Alabama and Selma Aves., asphalt, asphaltic concrete, bitulithic or brick. W. R. Crisman, city engr.

O., Ashtabula—(Official)—Until July 2 by Co. Comrs. completing Trumbull-Geneva Rd., brick. B. E. Brainard, clk.

O., Cincinnati—Until July 13 by F. E. Wesselmann, clk. co. comrs., improving portion Cliff Rd.

O., East Liverpool—Until July 2 by T. Doherty, dir. pub. ser., for paving Penn Ave. and Elizabeth and Harvey Sts. from Dry Run bridge to Pennsylvania state line. J. C. Kelly, city engr.

O., East View—Until July 9 by C. F. Vlk village clk., 3331 East 145th St., paving Lee Rd. F. A. Pease Engr. Co., 804 Marshall Bldg., Cleveland, engrs.

Indiana—By Co. Comrs. for building roads as follows: June 30: Terre Haute, gravel road, Fayette Twp., T. Ferguson, aud. July 2: Brazil, stone and gravel road on line Posey and Perry Twps. W. O. Graeser, aud. Rockport, rock roads, Center Twp., J. F. Stocking, aud. Angola, road in Pleasant Twp., I. W. Pence, aud. Nashville, gravel road, Johnson Twp., stone, gravel and concrete road, Brown Twp., O. Morrison, aud. Rushville, 15,800 ft. macadam road, Union Twp., W. H. McMillan, aud. July 3: Goshen, gravel road, Osolo Twp., A. R. Bemenderfer, aud. Bedford, concrete or macadamized road, Shawswick Twp., E. W. Edwards, aud. July 3: Monticello, 2 crushed stone roads Monon Twp., gravel road, Prairie Twp., A. G. Fisher, aud. July 3: Washington, pike road, Washington Twp., J. G. Clark, aud. Wasbach, 2 rocomac roads, Chester Twp., F. P. Kircher, aud. Bloomfield, gravel roads, Stockton and Fairfield Twps., G. E. Kidd, aud. Lebanon, gravel road, Jackson and Jefferson Twps., C. Goodwin, aud. Albion, brick road, Perry Twp., G. A. Young, aud. Greenfield, gravel and brick roads, Center Vernon, Brandywine, Sugar Creek Twps., H. J. Rhue, aud. Rensselaer, road in Marion Twp., 2 in Barkley Twps., J. P. Hammond, aud. Madison, crushed stone roads, Republic and Madison Twps., C. S. Dibler, aud. July 7: Noblesville, roads in Washington and White River Twps., W. O. Horton, aud.

Ind., Delphi—(Official)—Until July 3rd by H. D. Good, co. aud., grading, graveling or macadamizing, draining and otherwise improving Edward C. Quinn Rd., Democrat Twp.

Ind., Fowler—(Official)—Until July 2 by Co. Comrs. grading, paving and graveling, George H. Geary, et. al., brick and gravel road, Hickory Grove Twp. W. Mankey, aud.

Ind., Greenville—(Official)—Until July 3 by Co. Comrs. for improving 3 mi. Alonzo Tyner Rd., semimonolithic brick and C. P. T. Merrill Rd., Vernon Twp., tar-bound macadam and monolithic brick. C. Boone, co. engr.

Ill., Glencoe—Until July 5 by city for paving Glencoe Rd., 4800 sq.yd. brick on 2-in. sand-cement cushion filled with cement grout, concrete curb and crushed stone and screening to level up present foundation. Windes & Marsh, Winnetka, engrs.

Ill., Winnetka—Until July 3 by city for paving Sheridan Rd., 35,500 sq.yd. 2-course rein.-con. with integral curb, 11,755 cu.yd. grading and 98 catch basins. Windes & Marsh, Winnetka, engrs.

Ark., Newport—Until July 2 by G. Jones, Newport, for constructing 10 mi. road from Newport to Grubbs involving 97,000 sq.yd. gravel. Noted May 31.

Ark., Pine Bluff—Until July 14 by Comrs. Rd. Improv. Dist. No. 19, building 18½-mi. gravel roads, bituminous carpet top. L. E. Cheek, chn.

Utah, Salt Lake City—(Official)—Until July 3 by G. Snow, city recdr., paving portion Center, 1st W, 4th N, and 5th N Sts. S. Q. Cannon, city engr. Noted June 21.

Wash., Kalama—Until July 2 by Co. Comrs. clearing, grading, draining and surfacing with gravel and building bridges on Permanent Highway No. 3. F. C. Cramer, co. engr.

Streets and Roads (Continued)

Wash., South Bend—Until July 6 by S. B. Henry, co. engr., paving, clearing, grading and draining 1-mi. Natl. Park Highway.

California—Until July 16 by State Highway Comm., Sacramento, building and grading 8-mi. road between Willits and Arnold, Mendocino Co., 10-mi. between Seeley ranch and point near Action; 8-mi. between Action and Palmdale, Los Angeles Co.

Cal., Ventura—Until July 5 by Bd. Superv. for grading and building 4-in. concrete pavements and concrete and corrugated iron culverts on 14.3 mi. Divs. 0 and 10, Moorpark to Dillon Rd., also 4.65 mi. on Div. 15, Hueneme Rd. J. B. McCloskey, co. clk. C. W. Pettit, co. engr.

Cal., Ventura—Until July 6 by Bd. Superv. grading and building 4-in. concrete pavements and concrete and corrugated iron culverts on 7.54 mi. of Div. 6, Sect. 2, LaCrosse to Nordhoff Rd., also 6.01 mi. on Div. 4, Piru to county line. J. B. McCloskey, co. clk. C. W. Pettit, co. engr.

PRICES AND CONTRACTS AWARDED

Mass., Boston—Bd. Pub. Wks. received low bids paving Seaver St., (a) asphalt, (b) topeka, (c) bitulithic, from Central Constr. Co., 288 Southampton St., Roxbury, (a) $34,756, (b) $35,301, Warren Bros., 142 Berkley St., (a) $38,188, (c) $39,169, Coleman Bros., Pearl St., Chelsea, (a) $40,268, (b) $40,050, (c) $41,902; Hugh Nawn Contr. Co., 82 Savin St., (b) $43,680, (c) $45,315.

★**Conn., New Britain**—City let contract paving Stanley St., concrete, to American Hassam Co., $14,541.

★**N. Y., Syracuse**—City let contract paving portion Clarendon St. to C. T. Hookway Constr. Co., 106 Bastble Blk., $18,532; Cherry St. to G. B. Dickerson, Union Bldg., $4000.

N. Y., Troy—Bd. Contract and Supply received low bids paving portion Park Ave., vitr. brick from J. A. Kelly, $35,535; T. F. Grattan Constr. Co., $35,885.

★**N. J., Asbury Park**—City let contract paving Main St., warrenite, to Standard Bitulithic Co., 50 Church St., New York City, $23,098. Noted June 21.

★**N. J., Belvidere**—Bd. Freeholders let contract building Washington-Buttsville Rd. to Salmon Bros., 526 Elm St., Arlington, $69,306. Noted June 7.

★**N. J., Clementon**—City let contract building 14,000 lin.ft. sidewalks, curbs and gutters to A. Stutzer, Collingswood.

★**N. J., Elizabeth**—Bd. Pub. Wks. let contract paving Market St. to Uvalde Asphalt Paving Co., 2 Greene St., $30,034. Noted June 14.

★**N. J., Glen Ridge**—Bd. Freeholders, Newark, let contract paving Ridgewood Ave. to Franklin Contr. Co., 52 Vanderbilt Ave., New York City, $32,000. Noted June 7.

★**N. J., Irvington**—Bd. Freeholders, Newark, let contract paving Sanford Ave. to Standard Bitulithic Co., Essex Bldg., Newark, $16,898; Grove St. to T. H. Riddle, 102 Church St., New Brunswick, $100,351. Noted June 7.

★**N. J., Lakewood**—Town let contract paving portion Lexington, 4th, East 4th and Clover Sts. to J. F. Burke Co., 718 Monroe St., Plainfield, $49,050. Noted June 14.

★**N. J., Montclair**—Bd. Freeholders, Newark, let contract paving Grove St. and Upper Montclair Ave. to Osborn & Marseills, Bellevue Ave., Upper Montclair, $78,267 and $26,803 respectively. Noted June 7.

N. J., Morristown—Bd. Freeholders received low bid rebuilding Madison Ave. from Gary Constr. Co., Morristown, $27,635.

N. J., Newark—Bd. Pub. Wks. received low bids paving Meeker Ave., asphalt, from Municipal Asphalt Co., $1.75 sq.yd.; Standard Bitulithic Co., 31 Clinton St., $1.83; Northern Constr. Co., 665 Broad St., $1.88; J. T. Harrop, Garfield, $2.00. Noted June 14.

★**N. J., Paterson**—City let contract paving Water and Fulton Sts. to P. Kramer, 954 Madison Ave., $13,176 and $7646, respectively; Dale Ave. to L. Cramer, 99 Ward St., $11,463.

★**N. J., Perth Amboy**—City and Woodbridge Twp. let contract paving Florida Grove Rd., to Liddle & Pfeiffer, 137 New Brunswick Ave., $20,808.

★**N. J., Washington**—Bd. Freeholders let contract road from Washington to Oxford to Salmon Bros., 526 Elm St., Arlington, $69,305.

★**Pa., Chester**—City let contract paving various streets to D. E. O'Connell & Son, London Grove Twp., at $2.15 per sq.yd.

★**Pa., Geistown**—County let contract Geistown Elton Rd., concrete to J. L. Elder & Son, Ebensburg, $23,345.

★**Pa., Norristown**—County let contract building 5-mi. Ridge Pike, concrete, to Ambler Davis Co., Harrison Bldg., Phila.

★**Pa., Oil City**—City let contract paving School St. and Linden alley to Hinderliter & Pierce.

★**Pa., Wilkinsburg**—Boro. let contract paving, grading, curbing and installing storm and sanitary sewers to J. E. Welland Co., Vandergrift Bldg., and M. O. Herron Co., East 1st and McKean Sts., both of Pittsburgh.

★**Md., Baltimore**—City let contract paving 33rd St., 9300 sq.yd. sheet asphalt, to F. B. Beasman & Co., 2307 Becks Lane, $34,728; Abell and Ellerslie Aves., 11,500 sq.yd. sheet asphalt to P. Flanigan & Sons, Harford Rd., $41,530. Work to be done under Contract No. 156.

Md., Baltimore—City received low bid paving alleys Contract No. 39, from Potomac Eng. & Contr. Co., 300 Law Bldg., $24,403.

★**Va., Covington**—City let contract paving 50,000 yds. asphalt, 25,000 ft. concrete curb and gutter to Central Constr. & Supply Co., 7th and Emerald Sts., Harrisburg, Pa. $140,000. Noted May 24.

★**Ala., Linden**—Co. Comrs. let contract repairing 5-mi. gravel road and building 2-mi. extension to same to Nixon-Smith Constr. Co., Montgomery. Noted May 31.

★**Ala., Troy**—City let contract 29,500 sq.yd. wire cut lug brick pavement to Southern Clay Mfg. Co., Jones Bldg., Chattanooga, $75,000. Noted May 31.

★**Miss., Charleston**—County let contract grading 95,000 yd. and building rein.-con. culverts and bridges to C. F. Evans, Peabody Hotel, Memphis, $90,000.

★**Miss., Hattiesburg**—County let contract improving 45.8 mi. on Hattiesburg-Richton Rd., Hattiesburg-Eatonville Rd., Hattiesburg-Brooklyn Rd. and Brooklyn Bond Rd. to Central Alabama Constr. Co., Wetumpka, Ala., $91,000. Noted May 31.

★**La., De Ridder**—County let contract building 155-mi. road to N. A. Dawson, 801 Gunter Bldg., San Antonio, Tex., $257,447. Noted May 17.

★**Tenn., Johnson City**—City let contract curbing, guttering and paving 25,000-sq.yd., also installing sewers to Municipal Paving & Contr. Co., Greenville. Noted May 24.

★**Ky., Owensboro**—City let contract resurfacing 35,000-sq.yd. macadam streets with bituminous concrete to Andrews Asphalt Contr. Co., Hamilton, $46,291. Noted May 17.

★**O., Akron**—City let contract paving South Main St. to Columbus Asphalt Paving Co., $60,747.

★**O., Bowling Green**—County let contract building Caskie Rd. to Gray Bros., $61,805. Noted May 10.

★**O., Cleveland**—Bd. Control let contract paving portion East 113th St. to A. M. Pejsa Paving Co., 2359 East 93rd St., $13,790; West 66th St. to Poehl Bros., West 25th and Lorain Sts., $4425.

★**O., Dayton**—County let contract paving 2-mi. Wolf Creek Pike, brick to Swank Engr. Co., $45,350. Noted May 31.

★**O., Defiance**—Co. Comrs. let contract paving Stever Rd. to T. B. Putman, Antwerp, $30,000.

O., Fremont—City received low bids improving portion North Front St. from Modern Constr. Co., Fremont, Metropolitan brick, mastic filler, $26,000; asphalt filler, $28,000; cement filler, $26,745; Lincoln brick mastic filler, $26,000. Noted June 14.

★**O., Jefferson**—County let contract 5¼ mi. 10-ft. brick roads from Kingsville to Sheffield Center to T. P. Fitzgerald, $120,632.

O., Marietta—County received low bids building road from Belpre Bridge to Dana canning factory from Straw & Huber, Paulding, $21,542 and S. A. Palmer, Marietta, $21,623.

★**O., Orrville**—County let contract paving 1¼-mi. Burton City Rd., waterbound macadam, to Lee Griggs & Anderson, $20,800.

O., Wooster—Co. Comrs. received low bids paving Wooster-Burbank Rd. from McGary & Stowe, Akron, $32,340, brick; J. C. Devine, Alliance $29,214; Lee, Griggs & Anderson, $29,031, macadam. Noted May 24.

★**Ind., Bicknell**—City let contract paving 20,000 lin.ft. sidewalks to V. Martin, T. Dugger and H. Dobbs, $20,000.

★**Ind., Indianapolis**—(Official)—City let contract paving Ft. Harrison Blvd. to Northern Constr. Co., Elkhart, $137,000.

★**Ind., Vincennes**—County let contract paving Main St. to S. R. Adams & Co., $48,396.

★**Illinois**—Street Highway Comn., Springfield, let contract concrete road between Bartonville and Tuscarora to Canterbury Bros., Peoria, $30,287.

★**Illinois**—State Highway Comn., Springfield, let contract building roads, Sect. 19, Jackson Co. to Bland & Fitzgerald, $11,968; Sect. E. De Kalb Co., and Ford Co. to Pub. Ser. Constr. Co., $19,576 and $9311 respectively.

Ill., Moline—City received low bids repaving 5th Ave. from D. J. Ryan Constr. Co., Davenport, Ia., $20,188.

★**Ill., Moline**—City let contract grading 19th St. to Littig Constr. Co., 52 1st Natl. Bank Bldg., $10,492.

Ill., Moline—See "Sewers."

★**Ill., Pekin**—Bd. Local Improv. let contract paving 2nd St., involving 11,290-yd. monolithic brick, depressed concrete curb, to Jansen & Schaffer.

★**Ia., Clarinda**—City let contract paving 17th, 14th, Clark and Mains Sts. to J. S. McLaughlin & Son, Red Oak.

★**Mo., Caruthersville**—City let contract paving 32,000 sq.yd. streets, tarvia, to J. H. Hinerman, Springfield, $70,000.

Mo., St. Louis—Bids were received by Bd. Pub. Ser., June 22, for improving portions (a) 15th St., wood block, (b) Partridge Ave., asphalt on 6-in. concrete base, concrete curb, vitrified brick gutters and alley apron, (c) Arsenal St., asphalt on concrete base, (d) Hydraulic Ave., vitrified brick on 5-in. concrete base, granite curb, as follows: Eyermann Constr. Co., 1216 Grand Ave., (a) $7918, (d) $9895; Perkinson Bros. Constr. Co., Grand and Carter Sts., (a) $7861, (d) $9295; Skrainka Constr. Co., Security Bldg., (a) $7648; Independent Quarry and Constr. Co., (b) $48,414, (c) $14,415; Trinidad Asphalt Mfg. Co., Guaranty Trust Bldg., (b) $48,284, (c) $15,095; Moreno Burkham Constr. Co., Syndicate Trust Bldg., (b) $44,791; F. P. McCormick, (c) $14,559, (d) $10,382.

★**Ark., Clarksville**—City let contract paving various streets including Court Sq. to Bell & Walker Asphalt Co., Dallas, $33,000.

★**Ark., Pine Bluffs**—Rd. Improv. Dist. No. 14 let contract 40 mi. bituminous macadam roads to J. A. Perdue & Co., Pine Bluff. Noted June 7.

Okla., Okmulgee—City received low bids paving Muskogee Ave. from Barrett Bros., Kansas City, Mo., $17,838; and Park-Moran Co., $18,223.

Idaho—State Highway Comn., Boise, received low bids road and bridge work as follows: Grading 33 mi. in Washington Co., S. C. Comerford, Boise, $90,000; 26 concrete culverts and bridges between Weiser and Adams Co. line, J. H. Forbes, Caldwell, $14,704; 12 steel bridges, Missouri Valley Bridge and Iron Co., Boise, $40,260; 3 steel bridges in Madison Co., Yellowstone Park Highway, H. W. Perham, St. Anthony, $16,500; grading and surfacing 20 mi. Idaho & Pacific Highway, Mt. Home Highway Dist., Elmore Co., W. L. Blackwood, Mt. Home, $45,300 for grading; S. C. Comerford bid $25,250 for surfacing with gravel.

★**Ariz., Tucson**—City let contract paving, curbing, guttering portion 6th, 10th and Pennington Sts. to Warren Bros. Co., 204 Noll Bldg., Phoenix, $60,000.

★**Wash., Bellingham**—Co. Comrs. let contract paving North River Rd. to K. Sauset, 711 Caroline St., $108,315.

Wash., Everett—Co. Comrs. received low bid hard surfacing highway No. 18 and 29 from Kaiser Paving Co., Everett, $29,380. Noted May 17.

Wash., Port Angeles—City received low bids building I St. from Sloane Bros., Seattle, $44,425; E. Anderson & Co., Seattle, $48,753.

★**Wash., Wapato**—City let contract paving streets with bitulithic and concrete sidewalks to Washington Paving Co., L. C. Smith Bldg., Seattle, $24,648.

Oregon—State Highway Comn., Salem, received low bids building 1-mi. concrete highway near Sheridan from Montague O'Reilly Co., Portland, $17,391; V. R. Dennison Constr. Co., McMinnville, $19,148.

★**Cal., Los Angeles**—City let contract paving Hoover St., asphalt, to G. H. Oswald, 405 O. T. Johnson Bldg., $20,515.

Streets and Roads (Continued)

★**Cal., Los Angeles**—City let contract paving 117,113 sq.ft. St. Andrews Pl. to G. R. Curtis, 2440 East 26th St., $17,895.

★**Cal., Mill Valley**—Town Trustees let contract paving Miller, Blithedale and Throckmorton Aves. to Clark & Henery Constr. Co., 1st Savings Bank Bldg., Oakland, $102,000.

★**Cal., Oakland**—City let contract improving Maybelle Ave. to B. Ransome, Grand Ave. and Harrison St.

★**Cal., Redding**—City let contract paving various streets to Chico Constr. Co., Waterland & Breslauer Bldg., Chico, $50,000.

★**Cal., Visalia**—County let contract 9.9-mi. from Lindsay to Porterville to Concrete Pipe & Constr. Co., Porterville, $104,554; 14.04-mi. from North Dinuba to Sultana and Cutler to Rodger Bros., Hibernia Bldg., San Francisco, $154,319; 7.79-mi. from North Visalia to Visalia to O. & C. Constr. Co., Los Angeles, $85,768. Noted June 7.

★**Cal., Watts**—City let contract 94,288 sq.ft. Topeka surfacing, 4012 lin.ft. cement curb, 12,167 sq.ft. cement sidewalks, 2042 lin.ft. 8-in. vitr. pipe sewer, etc., in Main St., to T. H. Heinauer, Watts, $26,534. Noted June 7.

★**Que., St. Pierre**—Council let contract building gravel roads to G. Madden, 822 St. Valier St., Quebec, $32,500.

★**Ont., Leaside** — Provincial Government let contract building 3 mi. asphaltic roads to Foley & Gleason, Ottawa.

★**Ont., Sandwich**—Council let contract paving streets, rein.-con., to Chick Contr. Co., McDougall St., Windsor, $14,600.

RAILWAYS—STEAM & ELECTRIC

Proposed Work

Maryland—Western Maryland Ry. plans branch to Curtis Bay and Marley Neck industrial sections. H. R. Pratt, Continental Trust Bldg., Baltimore, ch. engr.

Louisiana—Elysian Fields Ave. Comn. plans to renew campaign for electric line from New Orleans to Milneburg. L. H. Burns, Canal Bank Bldg., New Orleans, interested.

Illinois—Danville, Crescent & Kankakee Traction Co. plans to revive projeict to construct line from Danville to Kankakee, via Potomac, Ellis, Rankin, Cissna Park and Crescent; almost all right-of-way has been secured. W. R. Nightingale, Crescent City, interested.

North Dakota—Dickinson, Lefor & New Leipzig R.R. has had surveys made by Black & Griffin, engrs., Mandan, for steam railroad from Dickinson to New Leipzig, about 75 mi. A. E. Lefor, Lefor, pres.

California—Western Pacific Ry. will build line from Decoto near Niles into San Jose, about 20 mi., within next year. T. J. Wyche, Mills Bldg., San Francisco, ch. engr.

Ontario—Canadian Pacific Ry. plans to spend $75,000 for reballasting its line between London and Windsor; also $185,000 to construct sidings, bridges, etc. A. Purvis, London, supt.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Washington**—Northern Pacific Ry. let contract to Clifton, Applegate & Toole, Hutton Bldg., Spokane, for branch line from Weikel, about 7 mi. Noted Apr. 26.

EXCAVATION AND DREDGING

Proposed Work

N. J., Summit — Drainage — Common Council plans to install drainage system in East Summit. About $100,000. R. Franklin, mayor.

Ga., Norcross—Drainage—Sweetwater D. D., Gwinnett Co., will build 18 mi. canals to drain bottom lands. Address J. R. Cain, Norcross, R. F. D. No. 1.

Fla., Jupiter—Drainage—Jupiter D. D., recently organized, plans to reclaim 140,000 acres of land; project involves 24 mi. canals. About $175,000. J. M. Burguieres, Jupiter, chn. com.

Fla., Tarpon Springs—Canal—Barton & Robinson, engrs., Tarpon Springs, preparing plans canal from Bayou at Tarpon Springs to and through Lake Butler, thence across to Safety Harbor and through Old Tampa Bay to Tampa, about 24-mi. Plans include 8-mi. dredging.

Ia., Sac City—Drainage—Buena Vista, Calhoun and Pocahontas Cos. soon receives bids Cedar Creek Drain, about $5,776,000 yd. open ditch work. About $629,000.

Minn., Crookston—Ditch Work—County received no bids repairing County Ditches Nos. 20, 51 and 53. H. J. Welte, co. aud. Noted May 31.

Minn., Montevideo—(Official)—Ditches—County sold $40,000 bonds to construct County Ditches Nos. 21, 23, 27 and 33. J. J. Steenes, co. aud. Noted June 14.

Minn., Moorhead—Drainage—Co. Comrs. authorized $125,000 bond issue for drainage and ditching work.

Ariz., Yuma—Irrigation—Yuma-Mesa Irrigation Co. has been organized by W. Kryger, E. A. Freeman and C. W. Ingham of Arizona-Mexico Land Co., Yuma, and associates to construct irrigation system to water 17,000 acres of land. Company plans to install 3000 hp. pumping plant north of Yuma to lift water from Colorado River and build reservoir on mesa.

Wash., Prosser — Irrigation — Horse Heaven Irrigation Dist. on June 16 voted $18,000,000 bonds to complete system. Project involves 150 mi. main canal, cost, $8,000,000; 2 power and pumping plants, $500,000; 6 laterals, $1,979,000, to water about 215,000 acres at $45 per acre and 300,000 acres, including reservoirs, at $87 per acre. Present bond issue does not provide for reservoirs as these structures were estimated to cost $8,833,000. R. H. Thomson, Alaska Bldg., Seattle, O. Laurgaard, Ry. Exchange Bldg., Portland, and A. J. Wiley, Butte, Mont., engrs. Noted May 10.

Wash., Yakima—(Official)—Drainage—Co. rejected bids opened June 16 for drainage system in Drainage Improv. Dist No. 29. Noted June 14.

Ore., Grants Pass — Irrigation — Grants Pass Irrigation Dist. has had plans prepared for district covering 5250 acres, involving 35 mi. main canal, laterals, flumes, tunnels, etc. G. A. Hamilton, secy.

Cal., Manteca—(Official) — Dams — Bd. Dirs., South San Joaquin Irrigation Dist., rejected bids auxiliary dams at Woodward reservoir. Noted June 7.

Cal., Modesto—Modesto Irrigation Dist. soon lets contract enlarging and improving main canal. About $254,000 available. F. C. Herman, ch. engr.

Cal., Riverside—Irrigation—Twin Buttes Water Co., recently incorporated with $750,000 capital stock, will irrigate tract of land below Arlington. W. J. Hole, Real Estate Trust and Savings Bldg., Los Angeles, interested.

BIDS DESIRED

Miss., Greenville—(Official)—Drainage—Until July 19 by O. C. Kulicka, secy. co. bd. drainage comrs., for about 4,700,000-cu.yd. earth excavation for drainage channels in Black Bayou D. D. Morgan Engr. Co., 608-614 Goodwin Institute Bldg., Memphis, engrs.

Ill., Hanna—(Official)—Dredging—Until July 16 by Comrs. Lower Green River Special D. D. at residence of B. Snodgrass, R. R. No. 2, Geneseo; advertised in this issue.

Ia., Boone—Drainage—Until July 12 by Joint Bd. Supervs. Boone and Story Cos. for Boone-Story Joint Drain Sub. No. 1, involving 35,000-ft. tile. J. R. Curry, aud. Boone Co.

Minn., Cambridge—Ditch—Until July 14 by G. C. Smith, co. aud., for County Ditch No. 16, including 91,492 cu.yd. excavation.

Minn., Redwood Falls—Ditches—Until July 12 by L. P. Larson, co. aud., for County Ditch No. 12, cost, $10,444; County Ditches Nos. 43, 44 and 45, $44,943.

S. D., Madison—Drains—Until July 12 by Bd. Co. Comrs. for tile drain in connection with Lake Moody Co., D.D. No. 1, involving 240,550-lin.ft. tile various sizes.

S. D., Madison—Ditch—Until July 12 by Co. Comrs. for Lake Co. Ditch No. 11, involving 19,100-lin.ft. tile various sizes.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**La., Youngsville**—Drainage — Comrs., Youngsville D.D. let contract 500,000-cu.yd. earth removal to H. S. Clark, Abbeville. Noted May 17.

★**Ind., Petersburg**—(Official)—Ditch—J. H. Chappell, atty., Petersburg, let contract ditch in Flat Creek D. D. to Cache Valley Constr. Co., Karnak, Ill., $31,695. Noted May 24.

Ill., Beardstown — (Official) — Drainage Comrs. Coal Creek Drainage and Levee Dist. received low bids drainage ditches from M. J. D'Meara & Son, 22.45c.; A. Bennema, 24.75c.; A. V. Wills & Sons, 28c. Noted June 7.

★**Ia., Algona**—Drainage—County let contracts drainage work as follows: Emmet and Kossuth Joint D.D. No. 5, open work to C. Benson, Armstrong, tile to J. J. Dooley, Algona; D.D. No. 133, tile to Welps Cement Products Co., Bancroft, Ia.; Winnebago and Kosuth Joint D.D. 68-136, open work to Horton & Mosley, 150 South Beardstown St., Chicago, tile to G. H. Erickson, Swea City, Ia. Noted May 31.

★**Ia., Charles City**—Ditch—County let contracts D.D. No. 3 as follows: Labor on Sects. 2 and 3 to C. Godfredson, Grafton; Sects. 4, 5, 6 and 7 to Nordstrom & Adams, Algona; open ditch (Sect. 1) to C. L. Hanson Charles City, tile to Cement Products Co., Mason City. Noted May 31.

★**Min., Glenwood**—Ditch — County let contract County Ditch No. 17 to P. B. Jennings, Wada, open work; and N. W. Drain Tile Co., Starbuck, tile. Total cost, $15,437.

★**Neb., Fremont**—Ditch—County let contract Blomendahl Ditch to A. D. Sears, Fremont. Noted May 17.

★**Mo., Rockport**—(Official)—Drainage—North Nishnabotna D.D. let contract 2-mi. drainage ditch to C. Thompson, Omaha, Neb., 18c. per yd. Noted June 7.

★**Ark., Lonoke**—Drainage—Comrs. Bayou Meto D. D. No. Q let contract diggings 70 mi. canals to drain 71,000 acres land to R. H. and G. R. McWilliams, Exchange Bldg., Memphis, about $344,000. Noted May 17.

★**Wash., Enumclaw**—Drainage — Comrs. D.D. No. 6, New York Bl., Seattle, let contract system to D. A. Foley & Co., Aitken, Minn. (Seattle office, Hotel Butler) $35,000. Noted June 21.

INDUSTRIAL WORKS

Proposed Work

Mass., Fall River — See "Structural Steel."

Mass., New Bedford — Fairpoint Co., Prospect St., plans 4-story, 100 x 200-ft. addition.

Conn., Bridgeport—See "Reinforced Concrete."

Conn., Bridgeport — Connecticut Auto Mfg. Co. having plans prepared for 3-story, 75 x 150-ft. brick and steel auto sales building on Main St. M. E. Walsh & Co., Connecticut Natl. Bank Bldg., archt. Noted May 24.

Conn., Kensington—Buckley Bakery & Macaroni Co., Hartford, plans to build large factory. W. P. Crabtree, archt., 272 Main St., Hartford, soon receives bids.

Conn., Stamford—W. J. O'Brien, 768 Main St., plans 4-story, brick and steel plant, South and Willow Sts. About $75,000.

N. Y., Brooklyn—Fidelity Metal Co., 196 Diamond St., having plans prepared for 3-story, 75 x 100-ft. plant.

N. Y., Buffalo—American Radiator Co. had plans prepared extension to foundry on Elmwood Ave. About $105,000.

N. Y., Buffalo—Donner Steel Co., 475 Abbott Rd., had plans prepared gas producer house and finishing mill. About $75,000.

Pa., Palmerton—New Jersey Zinc Co., 55 Wall St., New York City, plans 3-story, 60 x 130-ft. laboratory. About $200,000. Donn & Deming, archts., 808 17th St., N. W., Wash., D. C., receiving bids about July 1. Noted June 21.

Pa., Phila.—C. N. Forsythe, 3417 North 16th St., soon receives bids, 2-story, 52 x 200-ft. garage. About $60,000.

Pa., York—J. W. Richley Auto Co., 237 East Phila. St., had plans prepared by Gemmill & Bellmeyer, archts., 37 West Market St., for 2-story, 106 x 234-ft. garage. About $100,000.

Md., Baltimore—Baltimore Dry Dock & Shipbuilding Co., E. and Fort Aves., plans shipbuilding plant. About $3,500,000. Day & Zimmerman, engrs., 611 Chestnut St., receiving bids about July 1. Noted May 17.

Md., Baltimore—Consolidated Gas Light & Power Co., c/o J. R. Laizaux, Monument and Constitution Sts., having plans prepared for 1-story, 100 x 125-ft. boiler house. About $200,000.

Va., Richmond — American Locomotive Co. purchased site in Shockoe Valley adjoining plant recently acquired from Richmond Iron Works and will construct large foundry.

Fla., St. Petersburg — St. Petersburg Electric Light & Power Co., controlled by General Utilities & Operating Co., of Baltimore, plans to double capacity of plant. About $100,000. J. C. M. Lucas, Baltimore, pres.

O., Cleveland—O. Cook, 2880 Fairfax Rd., had plans prepared by Lehman & Schmidt, archts., Electric Bldg., for 3-story, 86 x 110-ft. plant at Prospect Ave.

Industrial Work (Continued)

and East 46th St., to be leased to Kelly-Springfield Tire Co., 704 Woodland Ave. About $175,000.

O., Cleveland—Packard-Cleveland Motor Co., 5206 Prospect Ave. plans 3-story automobile building, Prospect Ave. About $125,000.

O., Columbus—Pennsylvania R.R. plans to spend $1,000,000 for enlarging shops and installing equipment. A. C. Shand, Broad St. Station, Phila., ch. engr.

O., Lorain—American Sheet & Tin Plate Co., prepared plans sheet and tin plate plant. About $30,000,000 or $45,000,000.

O., Toledo—Hettrick Bros. Co. plans plant at Summit and Magnolia Sts. About $250,000.

Ind., Bloomington—A. Beck, Ada, Okla., will construct a cement factory here. About $200,000.

Ind., Ft. Wayne—Fisher Body Corp., Ft. Wayne, plans 5-story addition.

Ill., Peoria—United States Electrical Supply Co. of Peoria, recently incorporated, having plans prepared electrical jobbing house. About $100,000.

Wis., Kenosha—Cooper Underwear Co., c/o Davidson & Weiss, archts., 53 West Jackson Blvd., Chicago, will build 4-story, 20 x 140-ft. addition. Plans being prepared.

Wis., Milwaukee—See "Reinforced Concrete."

Wis., Racine—See "Reinforced Concrete."

Minn., Minneapolis—Berman Bros., 227 1st Ave. N, having plans prepared by J. V. Koester, arch., 317 Lastota Bldg., for 4-story, 110 x 150-ft. hide warehouse. About $160,000.

Mo., Kansas City—Clagett Storage & Transfer Co., 1316 West 8th St., purchased site at 1216-18 West 8th St., and plans large warehouse.

Ore., Astoria—Standard Oil Co. plans distributing station here. About $150,000.

Cal., Bakersfield—San Joaquin Valley Sugar Co., Visalia, plans sugar factory. About $1,000,000.

Ont., Walkerville—Chalmers Motor Car Co., Jefferson Ave. and New Belt Line R.R. having plans prepared by C. W. Brandt, archt., 502 Kresge Bldg., Detroit, 3-story, 60 x 260-ft. assembling building.

BIDS DESIRED

N. Y., Central Islip—(Official)—Until July 6 by State Hospital Comn., Capitol, Albany, for extension to laundry and equipment at Central Islip State Hospital; advertised in this issue.

N. Y., West Haverstraw—(Official)—Until July 6 by G. Blagden, pres. bd. mgrs. New York State Hospital for Care of Crippled and Deformed Children, West Haverstraw, for extension to laundry building; advertised in this issue.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Mass., Springfield** — American Writing Paper Co., 9 Main St., Holyoke, let contract reconstruction work in Gill Division to Casper Ranger Constr. Co., $250,000.

★**Conn., Bridgeport** — See "Reinforced Concrete."

★**Conn., Middletown** — Franklin Electric Co., Woodbine St., Hartford, let contract, 3-story, 40 x 200-ft. addition to H. Wales Lines Co., 134 State St., Meriden.

★**Conn., Waterbury**—Chase Rolling Mill Co., 734 North Main St., let contract 4-story factory to Torrington Bldg. Co., 197 Water St., Torrington, $50,000.

★**N. Y., New York**—F. T. Hopkins, 37 Great Jones St., let contract 5-story warehouse to Story & Flickinger, 5 Great Jones St.

★**N. Y., Syracuse** — Onondago Pottery Co., 1858 West Fayette St., let contract 3-story warehouse, West Fayette St., to H. D. Best Co., 52 Vanderbilt Ave., New York City.

★**Pa., Phila.**—S. Weil let contract 5-story factory, on North Front St., to F. Freisler, 523 Lafayette Bldg., $50,000.

★**Md., Curtis Bay**—(Baltimore Post Office)—Standard Guano Co., Continental Bldg., let contract fertilizer plant and power house to Whiting Turner Constr. Co., Sexton Bldg., 7 South Gay St., both of Baltimore. $500,000.

★**Va., Newport News**—Newport News Shipbuilding & Dry Dock Co. let contract 4-story, 50 x 250-ft. addition to J. Stewart & Co., 30 Church St., New York City.

★**O., Cleveland**—Cleveland Fire Box Co., St. Clair Ave., let contract factory, East 55th St., to Crump Engr. Co., Leader-News Bldg., $100,000.

★**O., Cleveland** — Cleveland Pneumatic Tool Co., 6410 Hawthorne Ave., let contract 2-story, 94 x 145-ft. factory, East 78th St., to G. A. Rutherford Constr. Co., 2160 East 18th St.

★**O., Cleveland**—Cowles Tool Co. let contract plant, 2086-96 West 110th St. to E. R. Russell, Sincere Bldg., $50,000.

★**O., Cleveland**—Tabor Ice Cream Co., Payne Ave., let contract 3-story, 125 x 130-ft. warehouse and garage, Payne and East 35th, to DeHamel Constr. Co., American Trust Bldg.

★**O., Youngstown**—Youngstown Sheet & Tube Co., Youngstown, let contract mill buildings to Blaw Steel Co., Freeport Rd., Hoboken, Pa.

★**Ind., Ft. Wayne**—General Electric Co., Bway. and Pennsylvania R.R., let contract extension to Building No. 6 to Indiana Engr. & Constr. Co., 702 Shoaff Bldg., $85,000.

★**Mich., Alma**—Republic Truck Co. let contract 2 additions to C. J. Bernard, 5604 Theodosea Ave., St. Louis. About $100,000.

★**Mich., Detroit**—Detroit Shipbuilding Co. let contract factory, Atwater St., to Wisconsin Bridge & Iron Co., Colby-Abbot Bldg., Milwaukee, $116,000.

★**Ill., Benton**—United States Fuel Co. let contract brick, concrete and steel wash house near mine to Schmidt Bros. Constr. Co., 105 North Clark St., Chicago, $50,000.

★**Ill., Chicago**—Central Mfg. Co., 1st Natl. Bank Bldg., let contract power house and pipe line tunnels to E. W. Sproul, 38 South Dearborn St., $200,000. Noted May 31.

★**Ill., Chicago**—R. M. Fair, 2222 Calumet Ave., let contract factory to A. & E. Anderdon, 19 South La Salle St., $90,000.

★**Ia., Davenport**—Boot & Van Dervoort Engr. Co., East Moline, Ill., let contract factory to H. W. Horst Co., Horst Bldg., Rock Island, Ill., $150,000.

★**Tex., Waco**—Williams Dry Goods Co. let contract warehouse to J. E. Johnson, $90,000.

★**Okla., Tulsa**—J. A. Waldrep, 215 East 1st St., let contract factory and stockroom to W. Simpson Constr. Co., Marsh-Strong Bldg., Los Angeles, Cal., $50,000.

★**Wash., North Yakima**—Yakima Ice & Cold Storage Co. let contract cold storage plant to Puget Sound Bridge & Dredging Co., Central Bldg., Seattle, $75,000.

★**Cal., Manteca**—Spreckles Sugar Co., California and Davis Sts., San Francisco, let contract mill and refining plant to Dyer Bros. Constr. Co., Cleveland, $950,000.

BUILDINGS

Proposed Work

Mass., Everett—Hall, Bank, Store and Office—Everett Trust Bldg. Corp., 453 Bway., had plans prepared by A. C. Loring, archt., 53 State St., Boston, 3-story, 126 x 170-ft.

Mass., Lexington — High School — Bd. Educ. soon receives bids, 3-story, 82 x 129-ft., 1-story, 65 x 76-ft. and 1-story, 78 x 84-ft., brick and stone W. D. Brown, 45 Milk St., Boston, archt. Noted May 17.

Mass., Revere—School—City had plans prepared by E. I. Wilson, archt., 101 Tremont St., Boston, brick addition to school, Francis and Franklin Sts. About $80,000.

R. I., Pawtucket—Club—Pawtucket of Elks had plans prepared by R. C. N. Monahan, archt., 255 Main St., 2-story, 60 x 90-ft., brick, Exchange St. About $70,000. Noted June 21.

Conn., Bridgeport—Hotel and Store—F. Canavere soon lets contract, 4-story, 30 x 120-ft. Main St., and Union Sq. About $50,000. Davis & Dane, Conn. Bank Bldg., archts.

Conn., Hartford—Grade School—City had plans prepared by I. Allen, Jr., archt., 904 Main St., for 2-story addition. About $125,000. W. E. Cone, 81 Asylum St., chm.

Conn., New Haven—Business — Morris Steinhert Estate, 944 Chapel St., plans 3-story, 50 x 100-ft., brick and steel.

Conn., Stamford—School—Bd. Educ. having plans prepared by Emmens & Abbott, archts., 1 Bank St., State and South Sts.

Conn., Waterbury—Parish House—2nd Congregation plan. About $125,000. R. Brown, pastor.

N. Y., Brooklyn—Bank—Flatbush Savings Bank, 863 Flatbush Ave., having plans prepared by Slee & Bryson, archts., 154 Montague St., 2-story.

N. Y., Brooklyn—Hospital—City having plans prepared by Ludlow & Peabody, archts., 101 Park Ave., New York City, Auburn Pl., Portland Ave. and Elliott St. Bids will soon be received.

N. Y., Buffalo—Church and School—St. Margaret's Congregation had plans prepared, 3-story, brick, 1379 Hertel Ave. About $65,000.

N. Y., Buffalo—H. L. Beck, city archt., prepared plans for library, clinic rooms and public bathhouse. About $80,000.

N. Y., Pomfret—Hospital—Chautauqua Co. having plans prepared by Green & Eicks, archts., 111 Franklin St., Buffalo, 3-story. About $135,000.

N. Y., Poughkeepsie—School—Bd. Educ. soon receives bids, 2-story, 60 x 100-ft. Warring Pub. School. About $50,000. E. C. Smith, 39 Market St., archt.

N. Y., Utica—Bank—Utica Trust & Deposit Co., 162 Genesee St., purchased site and will construct addition.

N. Y., White Plains—School—Bd. Educ. soon lets contract 2-story. Tooker & Marsh, 101 Park Ave., New York City, archt.

N. J., Atlantic City—Hotels—Syndicate headed by J. McE. Bowman, pres, and man. dir. hotels Biltmore, Manhattan, Ansonia and Commodore, recently organized, has had plans prepared by Warren & Wetmore, archts., 16 East 74th St., New York City, for 3 hotels on beach front to be named respectively, Atlantic-Biltmore, Atlantic-Manhattan, and Atlantic-Commodore.

Pa., Harrisburg—High School—Bd. Educ. had plans prepared by V. T. Ritter, archt., 1st Natl. Bank Bldg., Huntington, W. Va., 3-story. About $380,000.

Pa., Phila. — Theater and Office — S. Tauber, 229 West 109th St., New York City, is promotor for 6-story theater and office to be built on Broad St. on site of Horticultural Hall. About $300,000.

Pa., Pittsburgh—Bank—Union Trust Co. had plans prepared by Trowbridge & Livingston, archts., 5-story, granite or marble, Wood and Diamond Sts.

Pa., Scranton—Temple—Scranton F. and A. Masons acquired property on Washington Ave. and plan temple.

Pa., Tarentum—Hospital—Hospital Aid Assn. retained P. C. Dowler, archt., Arrott Bldg., Pittsburgh, to prepare plans, 2-story. About $100,000.

Va., Richmond—Hospital—Retreat for the Sick, c/o J. F. Lewis, secy., 319 North 12th St., plans, 4-story. About $150,000. Carneal & Johnson, archts., Chamber of Commerce Bldg., receiving bids about July 15.

Fla., Jacksonville—(Official)—School—Bd. Pub. instruction, Room 203 Court House, rejected bids School No. 6. R. A. Benjamin, archt. Noted May 31.

O., Cleveland — Library — City having plans prepared by Walker & Weeks, archts., 1900 Euclid Bldg., for Public Library, Superior and Rockwell Aves. About $2,000,000 available.

O., Cleveland — Store — Phypers Investment Co., prepared plans, 3-story, St. Clair and East 152nd Sts. About $70,000.

O., Cleveland—Store—J. Zucker, 2802 Superior Ave., plans 3-story, East 68th and Superior Sts. About $50,000.

O., Lakewood—Schools—City voted $620,000 bonds to build schools. Noted May 31.

O., Painesville—Parochial School — St. Mary's Congregation had plans prepared by C. R. Greco, archt., 729 Guardian Bldg., Cleveland, 1- and 2-story. About $50,000.

O., Toledo — Temple — Toledo Masonic Bldg. Co., Adams and Michigan Sts., having plans prepared by Langdon & Hohly, archts., 1442 Nicholas Bldg., for 4- or 5-story, 100 x 128-ft. addition. About $300,000.

O., Warren—Church—1st Presbyterian Congregation, plans 2-story, 115 x 125-ft. and 30 x 80-ft. Crow, Lewis & Wickenhoefer, archts., 208 5th Ave., New York City, receiving bids about July 15.

Ind., Anderson—Lodge—B. P. O. Elks plans, 2-story, 70 x 100-ft. About $100,000. D. F. Barr, 1031 Main St., secy. C. D. McLane, archt., 301 Robinson Bldg., soon receives bids.

Buildings (Continued)

Ill., Chicago — Hotel — American Cities Hotel Corp., 111 West Monroe St., having plans prepared by W. W. Ahlschager, archt., 111 West Washington St., for Pleasance Hotel, 10-story, 150 x 176-ft. About $900,000. A. S. Coyle, pres.

Ill., Chicago—Hotel—S. T. Cooper, 111 West Washington St., plans, 11-story, 143 x 175-ft. and 75 x 125-ft. H. J. Newhouse, archt., 4630 Prairie Ave., soon receives bids.

Ill., Chicago—School—University of Chicago completed plans medical school. About $5,800,000. H. P. Judson, pres.

Ill., Oak Park—Bank, Office and Store—Avenue State Bank had plans prepared by Pucksey & Jenkins, archts., 6 North Michigan Ave., Chicago, 2-story, 96 x 140-ft. About $100,000.

Ia., Sioux City—Hotel—7th and Pierce Co., c/o W. B. Nation, having plans prepared by F. W. Fitzpatrick, archt., 4200 16th St., N. W., Washington, D. C., for 10-story, brick, terra cotta and rein.-con. About $750,000.

Minn., Minneapolis—Schools—Bd. Educ. approved plans addition to schools as follows: McKinley School, $56,000; Corcoran School, $56,000; Bryant School, $66,000; Maria Sanford, Grover Cleveland, Hamilton, Bremer Junior High School and Seward School, $242,500.

Kan., Hutchinson — High School — Bd. Educ. receiving bids about July 15, 4-story, 95 x 114-ft. About $125,000. W. E. Hulse & Co., archts., 1st Natl. Bank Bldg., prepared plans. Noted May 24.

Kan., Peabody—High School—Bd. Educ. having plans prepared by G. W. Van Meter, 604 Caldwell-Murdock Bldg., Wichita, for 2-story, 63 x 106-ft. stone, terra cotta and rein.-con. About $50,000.

Neb., Omaha—Church—St. Mary's Ave. Congregation having plans prepared by G. B. Prinz, archt., Omaha Natl. Bank Bldg., brick church on 36th St. About $75,000 or $100,000.

Mo., St. Louis—Convention Hall—City plans election to vote on $2,000,000 bonds to build a convention hall. E. R. Kinsey, pres. bd. pub. ser.

Mo., St. Louis — Schools — City voted $3,000,000 to build schools. H. W. Kiel, mayor.

Okla., Stillwater—Armory and Gymnasium—State Bd. Agriculture had plans prepared by F. C. Biggin, archt., c/o State, 1-story, 80 x 220-ft. About $100,000. Noted Apr. 26.

Colo., Rocky Ford—High School—Bd. Educ. plans, 3-story, 115 x 160-ft. About $100,000. Mountjoy, French & Frewen, archts., 313 Chamber of Commerce Bldg., Denver, soon receives bids. Noted May 17.

Wash., Centralia—Theater—Field, Fitzgerald & Smith of Field & Lease Bank, Centralia, having plans prepared by W. Vernon, Finch Blk., Aberdeen, for 3-story, 80 x 130-ft. concrete. About $75,000.

Ore., Portland — Home — Grand Order Ancient Free and Accepted Masons plan. About $50,000. J. F. Robinson, Masonic Temple, secy.

Cal., Coalinga—High School—Bd. Educ. having plans prepared by E. J. Kump, archt., Fresno. About $100,000.

Cal., Fresno—School—City voted $500,000 bonds to build school.

Cal., Huntington Park—Grammer School—City voted in favor of issuing $78,000 bonds to build grammer school.

Cal., Riverside—School—City voted $50,000 bonds to build school in Arlington.

Cal., San Francisco — Bank — Canton Bank, 653 Kearny St., purchased site, Sacramento and Montgomery Sts., and plans. About $150,000. O. Schiller, archt.

Ont., London—Hospital Comn. preparing plans for soldiers hospital. About $550,000. Address A. Alexander, M. D.

BIDS DESIRED

Pa., Phila.—(Official)—Library—Until July 12 by G. E. Datesman, dir. pub. wks., Free Library of Philadelphia, Vine, 19th, Wood and 20th Sts., advertised in this issue. Noted Apr. 12.

O., Rocky River—High School—Until July 10 by C. H. Dean, clk. bd. educ., at Lakewood Rd. and Riverview Ave., about $60,000. W. H. Nicklas, 1900 Euclid Bldg., Cleveland, archt. Noted May 24.

Ind., Ft. Wayne—(Official)—Hospital—Until July 30 by W. Johnson, co. aud.

Ia., Columbus Junction—(Official)—High School Until July 23 by A. M. Mulhern, secy. Bd. Educ. About $90,000. Noted June 21.

Ia., Shenandoah—(Official)—High School—Until July 19 by Secy. Bd. Educ. About $120,000. Noted May 17.

Kan., Concordia—High and Grade Schools—Until July 18 by E. W. Ewing, supt. bd. educ., for high school and 2 grade schools. W. E. Hulse & Co., Hutchinson, archts. Noted June 21.

Kan., Great Bend—Court House—Until July 16 by County, 4-story, brick, stone and rein.-con. About $150,000. W. Beardsley, aud.

N. D., Almont—School—Until July 10 by T. A. Feland, pres. Sims school dist. No. 8, 2-story, brick. Asheiman & Gage, Fargo, archts and engrs.

Tex., Orange—(Official)—Hospital—Until July 3 by H. J. L. Stark, for F. Lutcher. C. H. Page & Bro., Austin Natl. Bank Bldg., Austin., archts.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Vt., Burlington**—Hospital—Home for Destitute Children Corp. let contract to O. A. Nichols, Essex Junction.

★**Mass., Dorchester**—(Boston P. O.)—Theater, Store and Office—L. Mullen, c/o Charlestown Trust Co., Charlestown, let contract to McGahey & O'Conner, Cambridgeport, $200,000.

★**Mass., Lowell**—Administration — Contagious Hospital, West Meadow Rd., let contract administration, dining and kitchen building and boiler house to F. F. Meloy, Lowell.

★**Mass., Lowell**—Theater, Store and Office—Strand Realty Co., 162 Tremont St., Boston, let contract to A. Beal & Son, 63 Tremont St., Boston, $100,000.

★**Conn., Jewett City**—Hotel—Aspinook Co. let contract 3-story, 50 x 100-ft., brick, to Fiske-Carter Constr. Co., 11 Foster St., Worcester, Mass.

Conn., Waterbury—High School—City received low bids English High School, from Mill Engr. & Constr. Co., Waterbury, $539,916 and Oscawanna Bldg. Co., 101 Park Ave., New York City, $567,000.

★**Conn., Waterbury**—High School—Bd. Educ. let contract English High School to Mill Engr. & Constr. Co., Waterbury, $539,916. Noted June 28.

★**N. Y., New York**—Theater—Putnam Theatrical Co. let contract, Fulton, Livingston, Smith Sts. and Gallitin Pl., to Fleischman Constr. Co., 7 West 45th St. About $500,000.

N. J., Harrison—School—Bd. Educ. received low bid addition to School No. 1 from McEvoy Bros., 33 6th St. Noted May 17.

★**N. J., Hoboken**—School—Bd. Educ. let contract P. S. No. 3 to M. T. Connoly Contr. Co., 238 17th St., $200,000. Noted June 7.

★**Pa., Athens**—High School—Bd. Educ. let contract to W. B. Richards, 24 Gates St., Wilkes-Barre. About $50,000.

★**Pa., Newcastle**—Lodge—Lodge No. 51, L. O. M. let contract to W. Chambers, $57,000.

★**Pa., Phila.**—Hospital—City let contract to Marx Constr. Co., Birmingham, Ala. About $2,000,000 available. Noted June 14.

★**Md., Baltimore**—School—Bd. Educ. let contract Linwood and Eastern Aves., to J. L. Robinson Constr. Co., 66 Knickerbocker Bldg., $117,000. Noted May 31.

★**O., Massillon**—Bank—Union Natl. Bank let contract, steel and brick, to J. L. Stuart, Illuminating Bldg., Cleveland. Noted May 17.

★**O., Youngstown**—Bank — Commercial Bank let contract addition to C. H. Medicus, 239 Lora Ave., $100,000. Noted Apr. 19.

★**O., Youngstown**—Museum—J. G. Butler, Jr., let contract, 50 x 124-ft. Georgian marble, Wick Ave., to J. H. Parker & Co., 315 4th Ave., New York City. About $250,000.

★**O., Youngstown**—See "Structural Steel."

★**Wis., Laona**—Schoolhouse—Bd. Educ. let contract to Krasin Bros., $50,000.

★**Wis., Madison**—Y. W. C. A. let contract building to Wisconsin Constr. Co., University Ave. and Charter St., $100,000.

★**Ia., Ottumwa**—High School—Bd. Educ. let contract to B. S. Staley Co., Ottumwa. About $144,719.

Minn., Aurora—High School—Independent School Dist. received low bid from Bailey-Marsh Co. About $300,000. Noted May 24.

★**Neb., York**—Schools—Bd. Educ. let contract 3 ward schools to Hansen & Nelson, Lincoln, $106,000.

★**N. D., Drake**—High School—Bd. Educ. let contract to R. B. Marschke, Lucca, $68,655.

★**N. D., Lakota**—Hotel—Lacota Hotel Co. let contract to D. A. Dinnie, Minot, $50,000. Noted May 24.

Mo., St. Louis—School—Bd. Educ. received low bid Penrose School, Clayton and Central Aves., from E. C. Gerhardt Constr. Co., $179,400.

★**Tex., Waco**—Store—Williams Dry Goods Co., let contract, Mary and 6th Sts., to J. E. Johnson, $90,000.

★**Okla., Norman**—Auditorium—State Bd. Pub. Affairs let contract to Holmboe Constr. Co., 311-315 Majestic Bldg., Oklahoma, $140,000.

★**Nev., La Vegas**—High School—See "Reinforced Concrete."

★**Wash., Pine City**—Lodge—Odd Fellows Lodge let contract, 8-story, 30 x 60-ft., to E. E. Erickson, Cheney.

Wash., Seattle—School—School Bd. received low bid Fauntleroy Grade School from Pohl Constr. Co., 3406 37th Ave., S. About $50,000.

★**Ore., Corvallis**—Library—Oregon Agricultural College let contract to Snook & Travers, Salem, $83,700.

★**Ore., Eugene**—Dormitory—Bd. Regents, University of Oregon, let contract to Van Patton & Son, Salem, $50,000. Noted June 7.

★**Cal., Sacramento**—School—Bd. Educ. let contract Washington School to H. S. Williams, Hearst Bldg., $196,816.

★**Ont., Hamilton** — School — Bd. Educ. let contract brick and steel to W. H. Hooper, Clyde Bldg., $70,000.

★**Ont., London**—Office—Utilities Bd. let contract to R. G. Wilson, 195 College St. and J. Purchbough, 1006 Wellington St., $100,000.

FEDERAL GOVERNMENT WORK

Proposed Work

O., Akron—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., rejected bids opened June 18. Noted June 21.

Minn., Montevideo—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., rejected bids opened June 19. Noted May 17.

Tex., Denton—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., rejected bids opened June 8. Noted June 21.

Tex., Orange—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., rejected bids opened June 6. Noted June 14.

BIDS DESIRED

N. Y., Tompkinsville—Coal—Until June 30 by Lighthouse Inspector for 350 tons pea coal and 250 tons stove coal; advertised in this issue.

Pa., Dubois—Post Office—Until Aug. 9 by J. A. Wetmore, superv. archt., treas. dept., Wash., advertised in this issue.

Md., Annapolis—Building—Until July 9 by Bureau of Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., for addition to Bancroft Hall, U. S. Naval Academy.

Wash., D. C.—Canal Wall—Until July 2 by Dist. Comrs., Room 509 Dist. Bldg.

Wash., D. C.—Cement—Until July 10 by U. S. Engr. Office, Room 305, Southern Bldg., for furnishing and delivery at foot 35th St., here, 15,000 bbl. more or less of portland cement; advertised in this issue.

Wash., D. C.—Dredge—Until Aug. 20 for purchase of 1 pipe line suction dredge offered for sale by Panama Canal; advertised in this issue.

W. Va., Charleston — Buildings — Until July 16 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., for 4 buildings.

Federal Government Work (Continued)

Tenn., Gallatin—Post Office—Until July 26 by J. A. Wetmore, superv. archt., treas. dept., Wash. Formerly published as an error to be received until June 26. Advertised in June 21 issue.

O., Cincinnati—Cement—Until July 23 by U. S. Engr. Office, 1st Dist., furnishing and delivering about 7200 bbls. American portland cement for dam No. 39, Ohio River.

Ia., Glenwood—Post Office—Until July 9 by J. A. Wetmore, superv. archt., treas. dept., Wash.

Tex., Vernon—Post Office—Until July 27 by J. A. Wetmore, superv. archt., treas. dept., Wash.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**N. Y., Buffalo**—Steel Towers — Lighthouse Inspector, Buffalo, let contract furnishing metal work for 2 steel towers for Manhattan Range Lights, O., to Great Lakes Dredge & Dock Co., Morgan Bldg., Buffalo, $8350.

★**N. Y., Yaphank**—Cantonment Buildings—N. D. Baker, secy. war, let contract to Thompson-Starrett Co., 49 Wall St., New York City.

N. J., Lake Denmark—(Wharton P. O.)—Storage Buildings—Bureau Yards and Docks, Navy Dept., Wash., received low bids from W. L. Goeltz Co., 50 Broad St., New York City, $107,200; United Fireproofing Co., 8 West 40th St., New York City, $116,170; C. D. Pruden & Co., Bayard and Warner Sts., Baltimore, $123,683. Noted Apr. 26.

★**Md., Annapolis Junction**—Cantonment Buildings—N. D. Baker, secy. war, let contract to Smith, Hauser & MacIssac, 18 East 41st St., New York City.

Wash., D. C.—Bridges—Comr. of Indian Affairs, Wash., received bids, June 20, steel highways bridges on Umatilla Indian Reservation, from Monarch Engr. Co., 312 17th St., Denver; Omaha Structural Steel Co., 420 Bee Bldg., Omaha; Zeich & Walton, 552 Gilillan Bldg., St. Paul; Midland Bridge Co., 504 Midland Bldg., Kansas City, Mo.

Wash., D. C.—Coast Guard Station—Navy Dept., U. S. Coast Guard, Wash., received low bids Coast Guard Station No. 184, Creeds Hill, N. C., from Evans & Meekins, Manteo, N. C., $18,200, and J. W. Martin, Elizabeth City, N. C., $17,567. Noted May 24.

★**Wash., D. C.**—Radio Buildings—Bureau Yards and Docks, Navy Dept., let contracts masts and towers at various radio stations as follows: C. L. Dooley, 257 Adelphia St., Brooklyn, for Portland, Me., $4800, Portsmouth, N. H., $4950; F. A. Day's Sons, 24 Pearl St., Provincetown, Mass., for North Truro, Mass., $4490; T. M. McCarrel, Charlestown, S. C., for Charlestown, Mass., $3898; W. T. Hadlow, Baldwin Bldg., Jacksonville, Fla., for St. Augustine and Jupiter, Fla., $3898 and $9281 respectively. Noted June 21.

Wash., D. C.—Sewers—Dist. Comrs., Room 509 Dist. Bldg., received only bid June 21, outlet trunk sewer on 4th St., S. E., from Warren F. Brenizer, Wash., 9000 lin.ft. piling driven in place and cut off, 40c. per lin.ft.; 17,000 ft. b.m. of lumber, $75 per M ft.; 750 cu.yd. ordinary excavation, $2.25; 400 cu.yd. concrete masonry "E" in place, $12.50; 35 cu.yd. vitr. brick masonry, $29; 4 cu.yd. sewer brick masonry, $16.

N. C., Chapel Hill—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received only bid from W. J. Brent Constr. Co., Bd. Trade Bldg., Norfolk, Va., $48,333. Noted June 7.

N. C., Wash Woods—Coast Guard—Navy Dept., U. S. Coast Guard Headquarters received low bid Coast Guard Station No. 166 from Evans & Meekins, Manteo, $19,000. Noted June 7.

Fla., Pensacola—Bulkhead, etc.—Bureau Yards and Docks, Navy Dept., Wash., received low bids bulkhead piers, culverts, fill and pavement at Navy Aeronautic Station from H. Monk, Pensacola, $94,000; F. G Proudfoot, Tampa, $77,610.

★**Fla., Pensacola**—Tower—Bureau Yards and Docks, Navy Dept., Wash., let contract to C. H. Turner Co., Pensacola, $25,260. Noted June 21.

★**Ky., Louisville**—Cantonment Buildings—N. D. Baker, secy. war, let contract to Mason & Hanger, Richmond.

★**O., Chillicothe**—Cantonment Buildings—N. D. Baker, secy. war, let contract to A. Bentley & Co., Toledo.

Ill., Aledo—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received low bids (a) limestone, (b) sandstone, from G. W. Stiles Constr. Co., Rookery Bldg., Chicago, (a) $43,414, (b) $43,714; Michie Constr. Co., 82 Wisconsin St., Milwaukee, (a) $43,100, (b) $43,600; Northern Constr. Co., 421 Milwaukee St., Milwaukee, (a) $42,675, (b) $43,200. Noted May 17.

★**Ia., Des Moines**—Cantonment Buildings—N. D. Baker, secy. war, let contract to C. Weitz Sons, 713 Mulberry St.

Minn., Montevideo — Post Office — **J. A.** Wetmore, superv. archt., treas. dept., Wash., received lows bids, (a) limestone, (b) sandstone, from J. Lauritzen, Fergus Falls, (a) $46,839; J. Hellerick, Montevideo, (a) $47,212, (b) $47,737; J. H. Alson & Co., Willmar, (a) $48,300. Noted May 17.

Kan., Cherryvale—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received low bids from C. Weitz Sons, 713 Mulberry St., Des Moines, Ia., $38,300; G. W. Stiles Constr. Co., Rookery Bldg., Chicago, $43,000; G. A. Shaul, Seneca, Kan., $48,790. Noted May 17.

★**Kan., Ft. Riley**—Cantonments Building—N. D. Baker, secy. war, let contract to G. A. Fuller Co., 175 5th Ave., New York City.

Wyo., Ft. Laramie—Canal—U. S. Rec. Ser., Ft. Laramie, received low bid excavating main canal on Ft. Laramie Unit, North Platte Project. Nebraska-Wyoming, from J. E. Hilton, Billings, Mont. Noted May 17.

Mo., Butler—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received low bids, June 22, from C. Weitz Sons, 713 Mulberry St., Des Moines, $42,460; Johnson Constr. Co., Argo, N. C., (Lillington P. O.); G. A. Shaul, Seneca, Kan. Noted June 7.

★**Mo., St. Louis**—Aviation Station—Newton D. Baker, secy. war, let contract to United Constr. Co., Title Guaranty Bldg., St. Louis, at cost plus percentage, $500,000.

Ark., Fordyce—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received low bids, June 22, (a) limestone, (b) sandstone, as follows: W. O'Neil & Sons Co., Faribault, Minn., (a) $31,979, (b) $32,929; King Lumber Co., Charlottsville, Va., (a) $42,000, (b) $44,000; A. Blair, Montgomery, Ala., (a) $42,850, (b) $43,400. Noted May 24.

★**Ark., Little Rock**—Cantonment Buildings—N. D. Baker, secy. war, let contract to J. Stewart & Co., 30 Church St., New York City.

★**Tex., Ft. Sam Houston**—Cantonment Buildings—N. D. Baker, secy. war, let contract to Stone & Webster Engr. Corp., 147 Milk St., Boston.

★**Wash., Tacoma**—Waterworks and Sewerage Systems—Hurley-Mason Co., general contractors for U. S. cantonment buildings at American Lake let contract waterworks and sewerage systems to Tacoma Dredging Co., Perkins Bldg., Tacoma. Project includes 15,000,000 gal. reservoir and about 20 mi. sewers and 20 mi. water pipe lines.

MISCELLANEOUS

Proposed Work

Garbage Disposal Plant—Tottenville, S. I., N. Y.—Metropolitan By-Products Co., 52 Vanderbilt Ave., New York City, plans, at Lake Island near Tottenville. About $18,000.

Dock—Phila., Pa. — Crew Levick Co., Land Title Bldg., will build 40 x 1200-ft. dock at proposed new oil works on Petty's Island.

Elimination of Grade Crossings—Reading, Pa.—Chamber of Commerce engaged H. H. Althouse, cons. engr., Woolworth Bldg., New York City, to prepare plans for elimination of grade crossings on 7th St. along Philadelphia & Reading Ry.

Retaining Walls—Fayetteville, W. Va.—See "Streets and Roads."

Wharves—New Orleans, La.—City appropriated $15,000 to improve wharf facilities here. W. G. Hardee, city engr.

Park Improvements—Toledo, O.—City receiving bids July 23 for sale of $150,000 bonds for park improvements. W. Steward, dir. finance. Noted June 7.

Subway—Cairo, Ill.—Cleveland, Cincinnati, Chicago & St. Louis Ry. will elevate its tracks upon and across Washington Ave. in northern section of city preparatory to building Sycamore St. subway. C. A. Paquette, Cincinnati, ch. engr.

Park Improvements — Okemah, Okla.—City voted $10,000 bonds to improve parks.

Culverts—Santa Ana, Cal.—See "Streets and Roads."

BIDS DESIRED

Elevated Railway—Brooklyn, N. Y.—Until July 5 by Pub. Ser. Comn., 120 Bway, New York City, for constructing Route 49, Sec. 3, Culver Rapid Transit R.R. from point near Ave. X to Sheepshead Bay Rd.

Dam—New Brunswick, N. J.—See "Reinforced Concrete."

Marble Wainscoating—Media, Pa.—(Official)—Until July 9 by O. L. Davis, co. controller, for marble wainscoating for main stairway and 2nd story front corridors of courthouse; advertised in this issue.

Coal—Ionia, Mich. — (Official) — Until July 5 by O. Fuller, warden Michigan Reformatory, 4000 tons bituminous coal; advertised in this issue.

Piling—San Antonio, Tex.—Until July 12 by F. Fries, city clk., furnishing 27,000 lin.ft. cypress piling, 12x12-in. x 27 ft., 121,000 lin.ft. cypress lumber 3x12-in. x 10-ft. and 5500 ft. trench and backfilling for retaining walls along San Antonio River.

Wharves—Kingston, Ont. — (Official)—Until July 16 by Dept. Pub. Wks. for reconstructing part of cribwork wharves at entrance to dry dock. R. C. Desroches, secy.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Boardwalk—Newport Beach, Cal.**—City let contract to G. Helms, Newport Beach, $14,091. Noted May 17.

★**Dam—San Rafael, Cal.**—Marin Municipal Water Dist. let contract Alpine Dam in Lagunitas Canyon to Leonard & Hansen, San Francisco, $211,626.

MATERIAL REQUIRED FOR CANTONMENTS

The Quartermaster's Department has finished its estimate of the amount of building materials required in each of the cantonments for the national army. The quantities may be more or less varied by construction needs which develop while the work is in progress and the difference in climate between the Northern and Southern part of the country has its effect on the quantities of some of the materials.

In the Southern states there will be about 5,600,000 board feet of boards, 7,800,000 board feet of dimension stuff, 177,000 ft. of 4 x 4 in. timbers 2,800,000 ft. of flooring, 1,200,000 ft. of siding and 1,400,000 ft. of matched boards. In the northern cantonments, where the amount of lumber will be increased about 216,000 board feet.

To construct one of these cantonments in the south it will be necessary to use over 2500 kegs of nails and in the northern cantonments about 2650 kegs. The buildings in a southern cantonment will require 4800 rolls of sheathing paper, 6300 squares of one-ply roofing, 21,900 squares of two-ply roofing, and about 2110 rolls of tarred felt. In the northern cantonments the amount of one-ply roofing will be reduced to about 800 squares while the amount of tarred felt will be increased to 3200 rolls.

The concrete work in a cantonment is estimated to require 4700 bbl. of portland cement, 1400 cu.yd. of sand and 2500 cu.yd. of broken stone of screened gravel.

In order to extinguish fires in these cantonments about 8300 fire extinguishers holding 2½ gal. each, will be placed around the buildings. There will also be at convenient places about 3000 water casks similar to those used in shipping oil. These will be painted red and have brackets from which 12-quart galvanized iron fire pails will be hung. The 16 cantonments will require nearly 120,000 of these fire pails. There will be water mains running through the camps fitted with hydrants and about 380,000 ft. of 2½-in. hose will be provided for connection with the hydrant nozzles.

The plumbing work for the 16 cantonments calls for about 1,600,000 ft. of ¾- to 2½-in. galvanized pipe, 20,000 nipples, 30,000 unions, 225,000 malleable fittings, 30,000 shower bath heads, 40,000 closets and tanks, 12,000 urinal troughs, 9000 lavatory troughs, 23,000 floor drains, 5000 roof flashings, 95,000 ft. of cast iron sewer pipe, 150,000 of soil pipe fittings, 822,000 lb of calking lead, 91,000 lb. of oakum, 8000 terra cotta grease traps, 8000 cast iron sinks, and 6000 galvanized range boilers.

It is estimated that about 4000 cars will be required to transport these materials to each cantonment, and while they are being delivered many more cars will be required to furnish the supplies needed for the workmen, who will number between 3500 and 5000, according to the condition of the work and the size of the cantonment. Furthermore, in order that the recruits may be accommodated as soon as they arrive, large quantities of cantonment furniture will arrive before the construction is finished, for as the workmen move out their places will probably be taken at once by the new soldiers who are to be trained in these camps.

Volume 78 Number 13

Engineering News-Record

A CONSOLIDATION OF ENGINEERING NEWS AND ENGINEERING RECORD

FREDERICK E. SCHMITT, *Editor*

June 28, 1917

Grouting the Foundation of the Elephant Butte Dam 625
BY E. H. BALDWIN.
UPSTREAM ROW OF GROUTED HOLES and two downstream rows of drainage wells serve as telltales.
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Milwaukee Air-Diffusion Studies in Activated Sludge 628
BY CARL H. NORDELL.
PROBLEM ANALYZED—Must expose large air-water interface—Nozzles and mechanical beaters eliminated—Fine-bubble diffuser plates most promising.
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Concentrated Potash a Byproduct of Cement Mill 630
AFTER-TREATMENT TO DILUTE POTASH from precipitation process gives 6 lb. potash per barrel of clinker.
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Diagrams Facilitate Design of Office-Building and Mill-Building Columns 632
BY W. S. WOLFE.
BUILT-UP I-SECTION of typical sizes can easily be selected when length, load and moment are known.
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Effect of Fire on Reinforced-Concrete Buildings Analyzed 633
Engineering News-Record, June 28, 1917. 1 col.

Bascule Bridge at Syracuse Typical of New York Canal Crossings 634
BY ARTHUR G. HAYDEN.
SKEW OF 23° led to using fixed floor over counterweight pit—Small movable sections along girders provide clearance.
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Vagaries of Expansion and Contraction Movements 636
Engineering News-Record, June 28, 1917. 1 col.

Dock Wall Built for a River-Front Building 637
PROXIMITY TO SEVEN-STORY STRUCTURE at Chicago made underpinning important feature of work.
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Busy Street Repaved Without Stopping Street-Car Traffic 638
RECUT GRANITE BLOCK laid between rails—Asphalt paving is used on the main roadway.
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Important Series of Steel Column Tests Establishes Principles of Strength 639
RELIABLE DATA on strength of modern steel columns provided by over 200 column tests at Bureau of Standards—Strength found to depend on the compressive yield-point of the steel.
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Attempts To Eliminate Dangerous Railroad Crossings 645
CALIFORNIA COMMISSION recommends 1100 improvements to lessen fatalities and injuries to users of highways.
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Canadian Cantonments All Built by One Contractor 646
ORGANIZATION DEVELOPED DURING THREE YEARS of rush work completes camps in short order.
Engineering News-Record, June 28, 1917. 3½ cols. Ill.

Northern Pacific Railway Has Fine New Drafting Room 648
SPACIOUS AND WELL-EQUIPPED QUARTERS—Large drafting tables—Metal filing cases—Facilities for filing drawings and books.
Engineering News-Record, June 28, 1917. 6½ cols. Ill.

Labor Conditions and How Contractors See Them 651
SHORTAGE OF SUPPLY and shifting of men from place to place constitute difficult problem and chief cause of decreasing efficiency.
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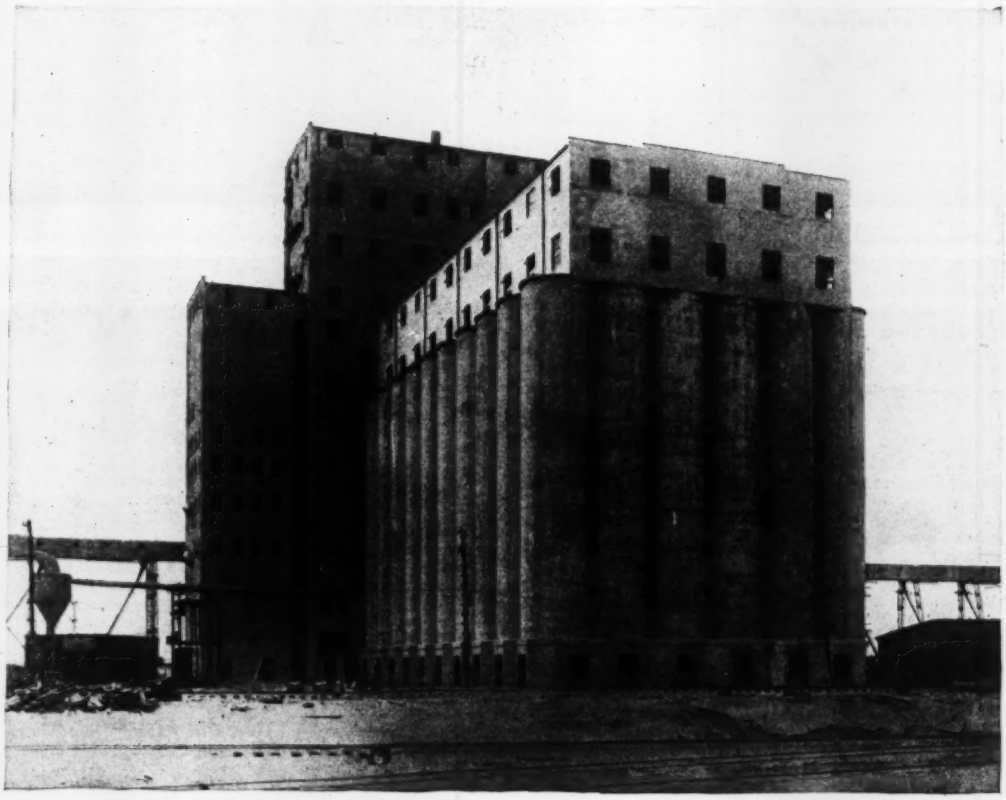

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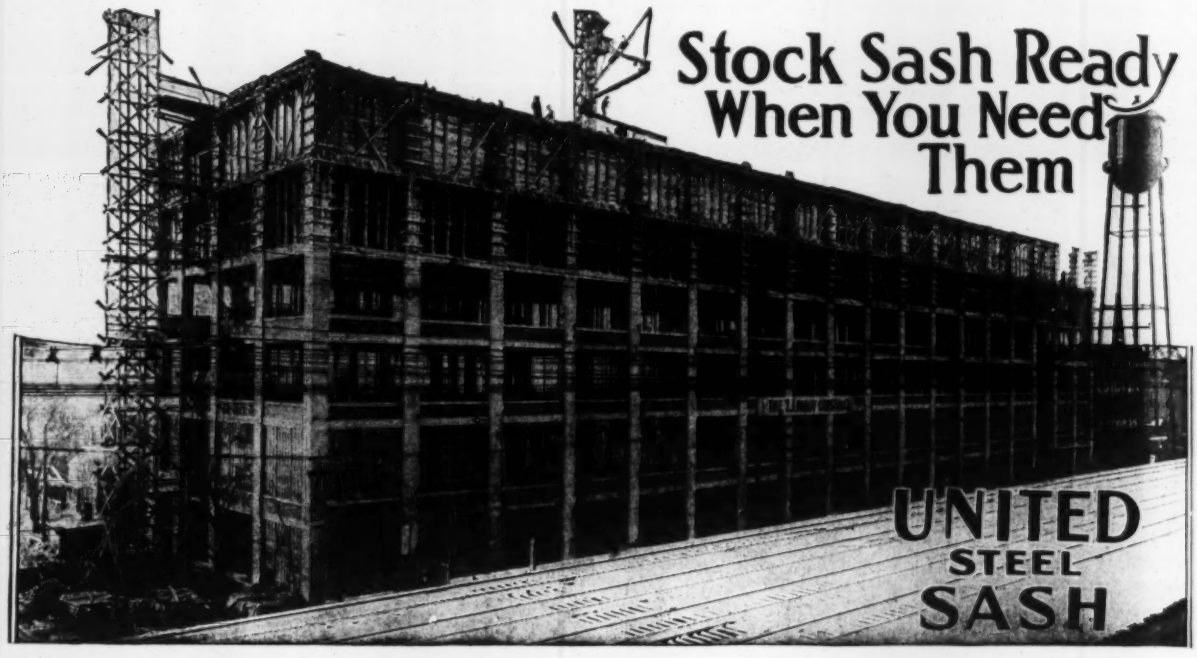

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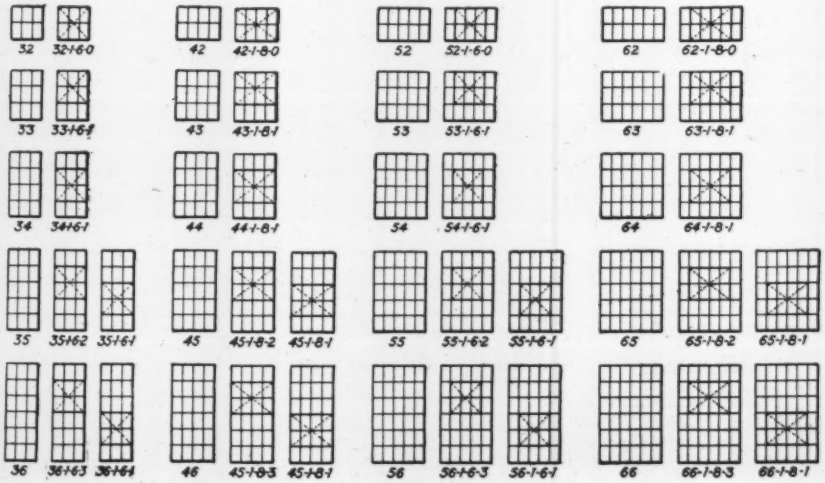

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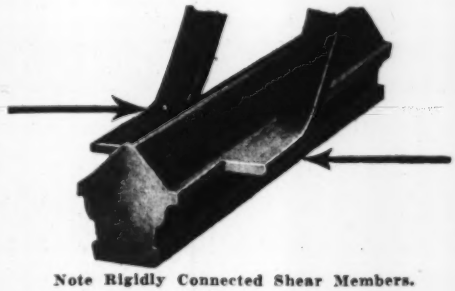
TABLE OF WIDTHS OF WINDOW OPENINGS

Width of Window Openings	Size of Glass	Total Lights Wide	No. Sash Units
3'- 3"	12x18	3	1
3'- 9"	14x20	3	1
4'- 3½"	12x18	4	1
4'-11½"	14x20	4	1
5'- 4"	12x18	5	1
6'- 2"	14x20	5	1
6'- 4½"	12x18	6	1
6'- 8" to 6'- 9"	12x18	6	2
7'- 4½"	14x20	6	1
7'- 8" " 7'- 9"	14x20	6	2
8'- 9" " 8'-10"	12x18	8	2
10'- 0½" " 10'- 2½"	12x18	9	3
10'- 1" " 10'- 2"	14x20	8	2
10'-10" " 10'-11"	12x18	10	2
11'- 1" " 11'- 3"	12x18	10	3
11'- 6½" " 11'- 8½"	14x20	9	3
12'- 1½" " 12'- 3½"	12x18	11	3
12'- 6" " 12'- 7"	14x20	10	2
12'- 9" " 12'-11"	14x20	10	3
12'-11" " 13'- 0"	12x18	12	2
13'- 2" " 13'- 4"	12x18	12	3
13'- 5½" " 13'- 8½"	12x18	12	4
13'-11" " 14'- 1"	14x20	11	3
14'- 2½" " 14'- 4½"	12x18	13	3
14'-11" " 15'- 0"	14x20	12	2
15'- 2" " 15'- 4"	14x20	12	3
15'- 3" " 15'- 5"	12x18	14	3
15'- 5½" " 15'- 8½"	14x20	12	4
15'- 6½" " 15'- 9½"	12x18	14	4
16'- 3" " 16'- 5"	12x18	15	3
16'- 4" " 16'- 6"	14x20	13	3
17'- 4" " 17'- 6"	12x18	16	3
17'- 7" " 17'- 9"	14x20	14	3
17'- 7½" " 17'-10½"	12x18	16	4
17'-10½" " 18'- 1½"	14x20	14	4
18'- 4" " 18'- 6"	12x18	17	3
18'- 9" " 18'-11"	14x20	15	3
19'- 5" " 19'- 7"	12x18	18	3
19'- 8½" " 19'-11½"	12x18	18	4
20'- 0" " 20'- 2"	14x20	16	3
20'- 3½" " 20'- 6½"	14x20	16	4
21'- 2" " 21'- 4"	14x20	17	3
21'- 9½" " 22'- 0½"	12x18	20	4
22'- 5" " 22'- 7"	14x20	18	3
22'- 8½" " 22'-11½"	14x20	18	4
23'-10½" " 24'- 1½"	12x18	22	4
25'- 1" " 25'- 4"	14x20	20	4
25'-11" " 26'- 2"	12x18	24	4
27'- 6" " 27'- 9"	14x20	22	4
29'-11" " 30'- 2"	14x20	24	4

TABLE OF HEIGHTS OF WINDOW OPENINGS

Height of Window Openings	Size of Glass	Total Lights High	No. Sash Units
3'- 2"	12x18	2	1
3'- 6"	14x20	2	1
4'- 8½"	12x18	3	1
5'- 2½"	14x20	3	1
6'- 3"	12x18	4	1
6'-11"	14x20	4	1
7'- 9½"	12x18	5	1
8'- 7½"	14x20	5	1
9'- 4"	12x18	6	1
10'- 4"	14x20	6	1



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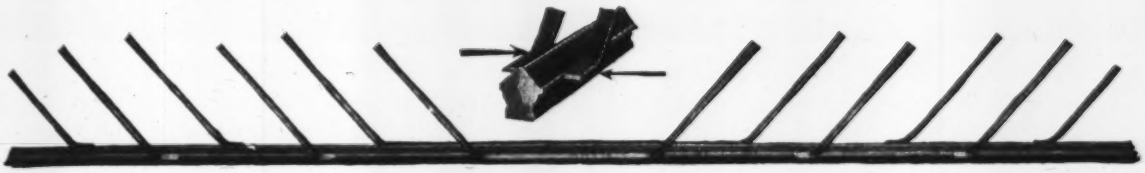


KAHN TRUSSED BAR

The **Kahn Trussed Bar** for reinforcing concrete consists of a main horizontal bar and **rigidly connected diagonal shear** members. The cross section of the bar has two horizontal flanges projecting at opposite sides. These flanges are sheared up at intervals to form the rigidly connected diagonals, making a unit of main bar and shear members.

Kahn Trussed Bars save steel, because the shear members are formed from that portion of the flanges of the main bar where the whole section is no longer required to resist bending moment. This saves the entire expense of additional steel required for loose stirrups.

Kahn Trussed Bars save labor of installing many loose separate bars, because shear members and main bar are handled as one piece.

Kahn Trussed Bars safeguard the structure because the rigidly connected shear members make its strength independent of the adhesion of the concrete. Loose stirrup designs depend upon this adhesion, which may be destroyed by fire, shock, or careless workmanship.

Kahn Trussed Bars make beams 12% to 30% stronger than where loose stirrups are used, as proven by University tests.

The web members of **Kahn Trussed Bars** are inclined at 45 degrees at right angles to the plane of weakness in the beam and present a flat surface to the compression stresses, which grip them like a vise.

Our products cover the field of reinforced concrete completely, including, in addition to Kahn Trussed Bars—Rib Bars, Column Hooping, Rib Metal, Floretyles, Hy-Rib, Kahn Mesh, etc., etc.

If you are interested in building write for our suggestions and literature.

KAHN Building Products

Trussed Concrete Steel Co.

Youngstown, Ohio

Representatives in Principal Cities

KAHN Building Products

And Solomon

Forgot to invite the Forgeman to the banquet celebrating the completion of the temple.

When the throne was unveiled however there sat the forgeman in the seat of honor the uninvited.

The guards rushed to cut him down; but Solomon said "How could this temple have been built but for this man?"

Now then, when building your engines, ships and machinery invite prices on

CAMDEN FORGINGS

We feel honored in receiving your invitation and shall strive to secure the place of honor by taking your order.

We are thoroughly equipped to make many forgings, light or heavy, for various industries and simply add what is below as a

"Buyers Guide"

High and Low Carbon Bars
Press Columns and Rams
Pull Back Cylinders
Water Cylinders
Valve Bodies
Plungers
Weldless Steel Rings
Lathe Spindles, solid and hollow bored.
Long Feed Screws
Power Press Crank Shafts
Cam Shafts

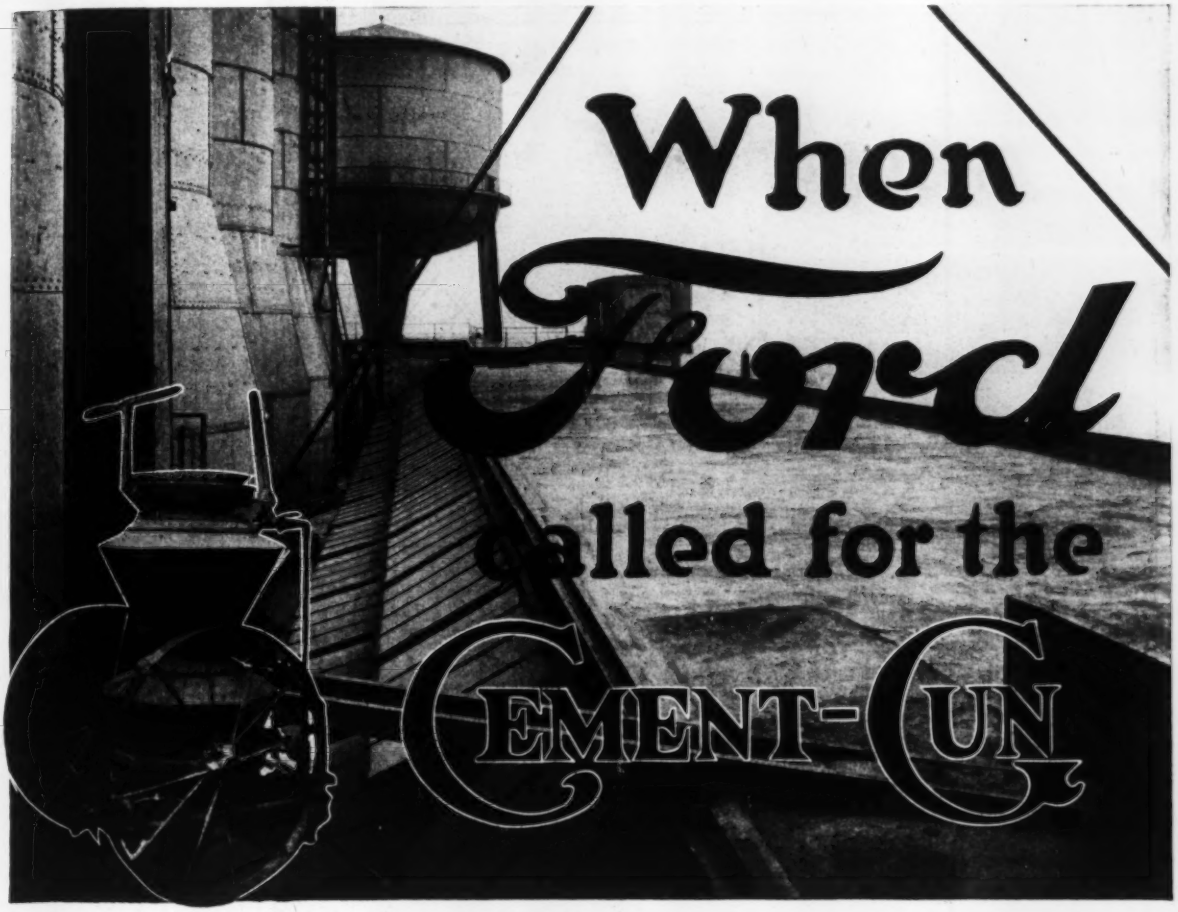
Eccentric Shafts
Crusher Shafts
Gear and Pinion Blanks
Locomotive: Side and Main Rods; Crank Pins; Axles; Rod Straps; Guides; Parts of frame both in iron and steel
Hammered repairs: Iron Bars for locomotive

Marine Shaft
Marine Connecting and Eccentric Rods
Rolls: Bending; Feed; Straightening; Embossing
Large Wrenches
Saw Arbors
Steam Engine Forgings
Pump Crank Shafts
Pump Connecting Rods

Large Nuts
Turbine Shafts
Mill Shafting
Trolley Car Axles
Electric Motor Axles

Any forging to your print and specifications, smooth forged, rough machined or finished complete in either iron or steel.

CAMDEN FORGE CO.
Fairview Ave., CAMDEN, N.J.



Ford sent for the Cement-Gun Construction Co. of Chicago, and here's what they did with **"Gunite."**

(1) Built a new roof and sidewalls for the penthouse roof at the power plant—65,000 sq.ft. of 2-in. **"Gunite."**

(2) Cooling ponds for condenser water on roof of adjoining building had been built of ordinary concrete and were disintegrating under the action of hot water. This vast pond 875 x 75 ft. was made **watertight** with **"Gunite."**

(3) All columns and girders in power plant (to be encased in brick) were first protected with ½ to 2 in. of **"Gunite."**

(4) Four large basins on the ash floor, each 50 x 125 ft. were made waterproof and heatproof by 2½ in. of **"Gunite."**

(5) Five large steel smokestacks (brick-lined) were raised 50 ft. in height and the new sections lined with 1¾ in. of reinforced **"Gunite."**

(6) Service tunnel connecting the different Ford buildings—10 x 12 x 4000 ft. long, was made permanently watertight with ¾ in. of **"Gunite."**

The Cement-Gun was recommended to the Ford Motor Company for this important work by T. L. Condron Co., their consulting engineers.

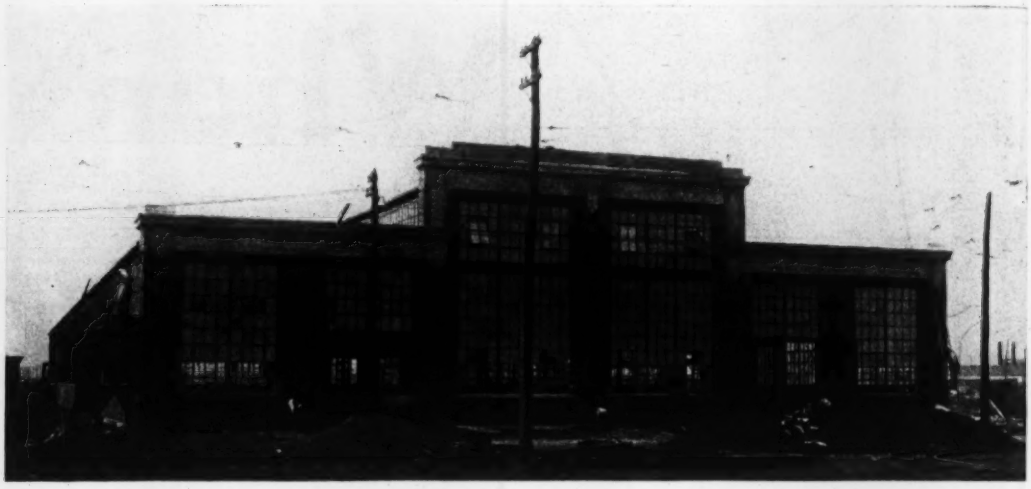
Write for complete data on the full scope of the Cement-Gun.

Cement-Gun Company, Inc.

Allentown, Penna.

Cement-Gun Company, Inc., 30 Church St., New York City.
E. R. Ayers, 1414 Fisher Bldg., Chicago, Ill.
Taylor Engineering Co., 538 Central Building, Seattle, Wash.
John A. Traylor, Newhouse Building, Salt Lake City, Utah.
Taylor Engineering Co., Vancouver, B. C.
A. R. Roberts, 727 Traders Bank Building, Toronto, Ont., Canada.

The Cement-Gun can be purchased outright from us and used by anyone. It is not a restricted article.



Substantial, Good-Looking Buildings in Thirty Working-Days

AUSTIN Standard Factory-Buildings are designed for "the beauty of perfect utility," without a single unnecessary detail. Yet we can make them conform to an established architectural style and still complete them in 30 working-days from the date of the order. Witness the Austin Standard No. 3, shown here, which was built for the General Electric Company at Schenectady.

The building, 100 x 300 feet, was begun April 23 and completed May 31—exactly 30 working-days, eliminating holidays and half-holidays. The architectural details of the facade conform to the established style.

When your clients need new buildings in exceptionally quick time, consider one of the nine Austin Standards. If individual design is necessary, ask about our quick construction and guaranteed time of delivery.

Write for free catalog illustrating and describing the nine Austin Standards

The Austin Company

INDUSTRIAL BUILDERS

Cleveland, Ohio

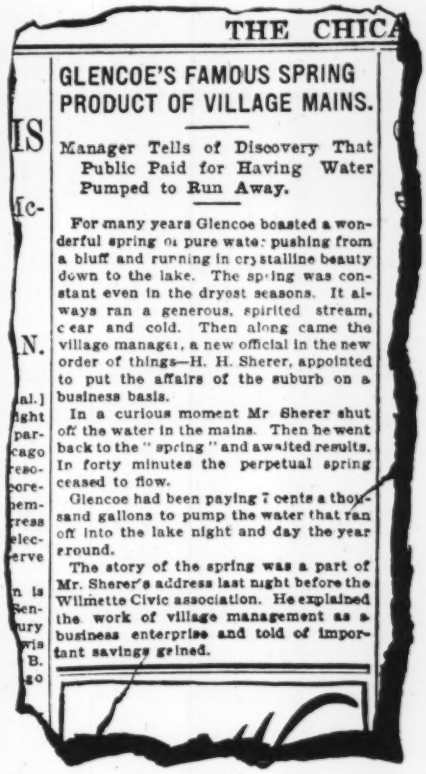
Philadelphia **Bridgeport, Conn.** **Indianapolis**
Jackson, Mich.

Export Representative: American Steel Export Co.
Woolworth Building, New York

Look for the Venturi Meter advertisement on this page in every alternate issue

VENTURI

A Venturi Meter Would Have Saved Glencoe Thousands of Dollars



THE CHICA

GLENCOE'S FAMOUS SPRING PRODUCT OF VILLAGE MAINS.

Manager Tells of Discovery That Public Paid for Having Water Pumped to Run Away.

For many years Glencoe boasted a wonderful spring of pure water pushing from a bluff and running in crystalline beauty down to the lake. The spring was constant even in the dryest seasons. It always ran a generous, spirited stream, clear and cold. Then along came the village manager, a new official in the new order of things—H. H. Sherer, appointed to put the affairs of the suburb on a business basis.

In a curious moment Mr Sherer shut off the water in the mains. Then he went back to the "spring" and awaited results. In forty minutes the perpetual spring ceased to flow.

Glencoe had been paying 7 cents a thousand gallons to pump the water that ran off into the lake night and day the year around.

The story of the spring was a part of Mr. Sherer's address last night before the Wilmette Civic association. He explained the work of village management as a business enterprise and told of important savings gained.

Glencoe, Ill., paid dearly for its distinction of having a beautiful spring rushing over a bluff into a lake located in a suburb of the town.

It took years to discover that the source of this perpetual flow came from a break in the water main and that Glencoe had been paying 7 cents per thousand gallons for the privilege of this spectacle.

Contrast this waste due to the absence of reliable measuring facilities with that of the huge saving effected at the village of Ilion, N. Y., where a 12-inch

VENTURI METER

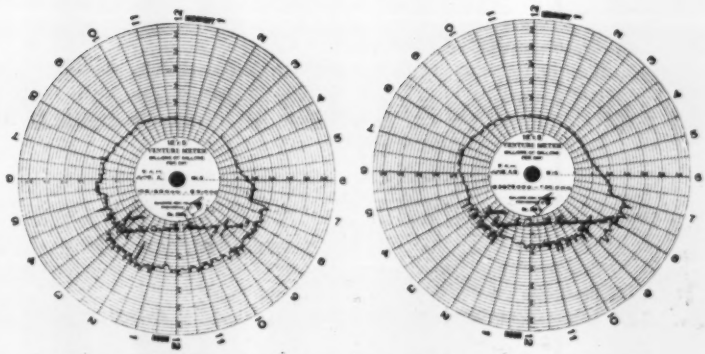
detected almost *immediately* a leak amounting to 160,000 gallons per day.

An investigation was started at Ilion because the Venturi Meter chart showed a sudden increase in the night rate which was considered excessive.

Careful search revealed a large number of leaking taps and fixtures. These were corrected, with the result that four weeks later a daily saving of 160,000 gallons or nearly 18% of the total supply was recorded.

Do you know whether or not your water mains are feeding springs? Venturi Meters will tell you and will place your water distribution economy in the "Ilion Class."

Bulletin No. 84-N gives full details. Address Department "Y."

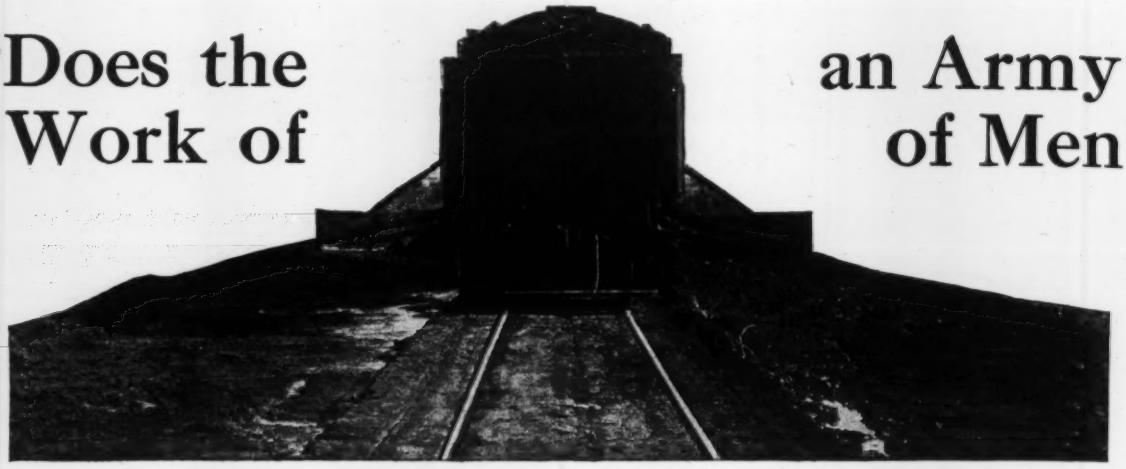


Two charts from Venturi Meter at Ilion, N. Y., showing how a leakage of 160,000 gallons per day was discovered and corrected.

Builders Iron Foundry, Providence, R. I.

BRANCH OFFICES—25 Church St., New York City. 1704 Oliver Building, Pittsburgh, Pa. The Rookery, Chicago, Ill. N. B. Livermore & Co., Merchants National Bank Building, San Francisco, Calif. Northwestern Equipment Co., 1205 Northwestern Bank Bldg., Portland, Ore. Allen General Supplies, Ltd., Toronto, Canada.

"Does the Work of an Army of Men"



33 American Railways—

spread dirt the Jordan way. On any railway system there's work almost every day for the Jordan Spreader. One man and the train crew are all that's required to operate—

A great money saver on freight yard enlargement, and spreading ballast—indispensable on double track or embankment work. It's the most successful open track snow-plow.

Many American Mines—

Use the Jordan Spreader to spread ore—slag or top soil waste.

Leading Dirt Moving Contractors—

are rapidly discovering that there's only one *best* way of spreading dirt dumped from cars—and that's the Jordan way. Now being used on the Panama, Welland and Calumet Sag Canals and Mississippi River Levee Work.

The JORDAN SPREADER

easily spreads 75,000 cu. yds. per day of slag, rocks, boulders, dirt, debris, clay, ore, coal or sand, at a cost of $00.0005 per yd.

Adjusted to spread material from 14 inches above to 20 inches below top of rail—

Spreads material 21 ft. from center line of track.

Compressed air operation.

Send for Catalog and information.

THE O. F. JORDAN COMPANY

CHICAGO AND KENNEDY AVES., EAST CHICAGO, IND.

Erie Revolving Shovels

"Smile With Me!"

Bill Muldoon Says: "Not long ago the man I consider the greatest editor of our greatest technical journal looked over his boys and girls working in the outer office. He leaned back and smiled—and here's what he said to me:

"'There's no doubt about the advantage of the foreman or manager speaking the language of his foreign employee.

"'But in lieu of such knowledge he can make frequent use of *the universal language—the smile.*

"'The two ideas are fundamental, and so important that they are worth passing on to all employers, even to those who do not employ immigrants.

"'Fair play, the confidence of associates, the disposition toward one's fellows and one's work that displays itself in a smile, will help win in any walk of life.'"

"Good dope, says I. But you don't need to prescribe it to an ERIE SHOVEL user. He comes by his smile *naturally.*

"Take the fellow who had to cross under the Boston "L" tracks with his Erie Shovel for instance: He just let down the stack and slacked away his boom, and was ready right away for 12 ft. 9 in. overhead clearance. The ERIE has a lot more working points you can use in your business.

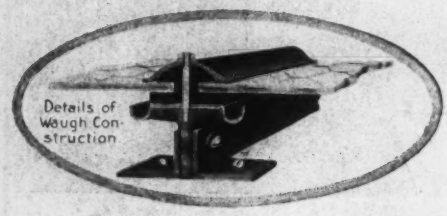
"Ask any ERIE owner,
"And watch him smile!"

Bill Muldoon.

BALL ENGINE CO.

Find out which is the best revolving shovel on the market.

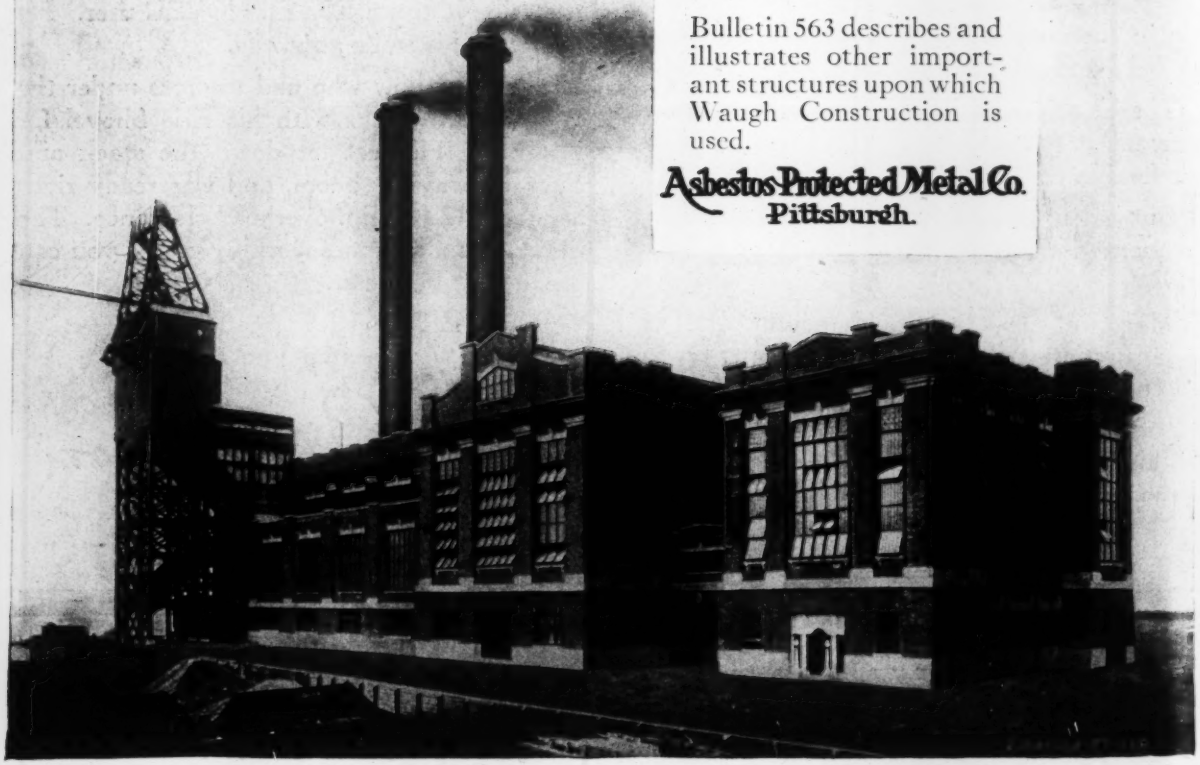
Perfect Service for Public Service rendered by Waugh Glazing Construction

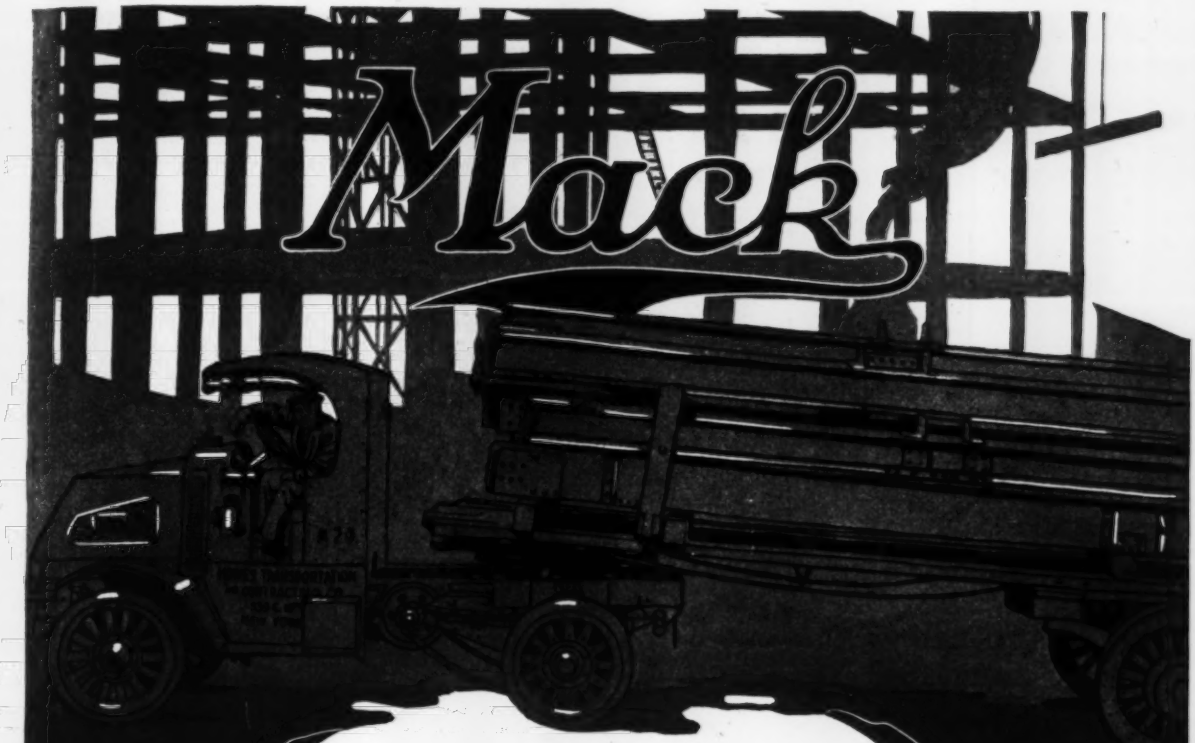


This power plant of the Public Service Corporation of N. J. represents an investment of hundreds of thousands of dollars in valuable machinery alone. Waugh Construction was selected for the skylights over this machinery as well as for other "Public Service" plants because it provides perfect, permanent service.

Bulletin 563 describes and illustrates other important structures upon which Waugh Construction is used.

Asbestos Protected Metal Co.
Pittsburgh.





"You can quote me as saying I wish we had All Mack Trucks"

said Mr. Tobin of the Howes Transportation and Contracting Company

The above Company has two Mack "AC" Heavy Duty Tractors--12 and 15 tons—(embodying the same mechanical features as Mack Trucks.) They are using these Macks for transporting structural steel to the job, pulling the big girders and columns from the docks at 54th Street and North River, New York, up the steep hills in that locality. Mr. Tobin's statement briefly sums up what this Mack owner thinks—an opinion based on *performance.*

Mack heavy Duty Trucks in 3½, 5½ and 7½ tons capacity. With or without dump bodies.

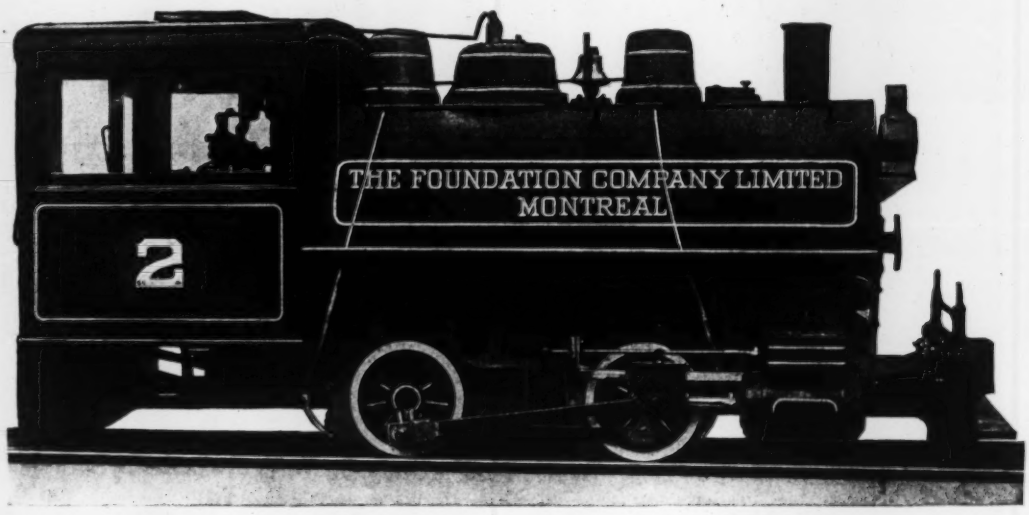
A glance through Mack Catalog No. 4. will show you why Mack Trucks insure maximum *performance.*

International Motor Company

West End Ave. and 64th St.
NEW YORK CITY

Performance Counts

KEEP THE WORK GOING



Nothing is more important in contracting work than the prompt and certain movement of material.

Delays affect the whole work. To avoid delays locomotives must be reliable and always ready for service.

Our standard Contractors' locomotives are built to insure reliability and constant service. Only tested materials are used in their construction. All wearing parts are made to templates and gauges. Interchangeability of like parts is guaranteed, and long delays waiting for duplicate parts avoided, as duplicate parts are kept in stock at our Works for prompt shipment.

AMERICAN LOCOMOTIVE COMPANY

30 CHURCH STREET, NEW YORK

McCormick Building, Chicago, Illinois. A. Baldwin & Company, New Orleans, La.
Dominion Express Building, Montreal, Canada.
N. B. Livermore & Company, San Francisco and Los Angeles, California.
Northwestern Equipment Company, Seattle, Wash., and Portland, Oregon.

Wake up the Millions!

This country is at war—yet thousands—hundreds of thousands would not realize it—it took the definite action of registration day—the unaccustomed walk from home to poling place—the answering of questions—to make them realize that a foe lurked at our very doors.

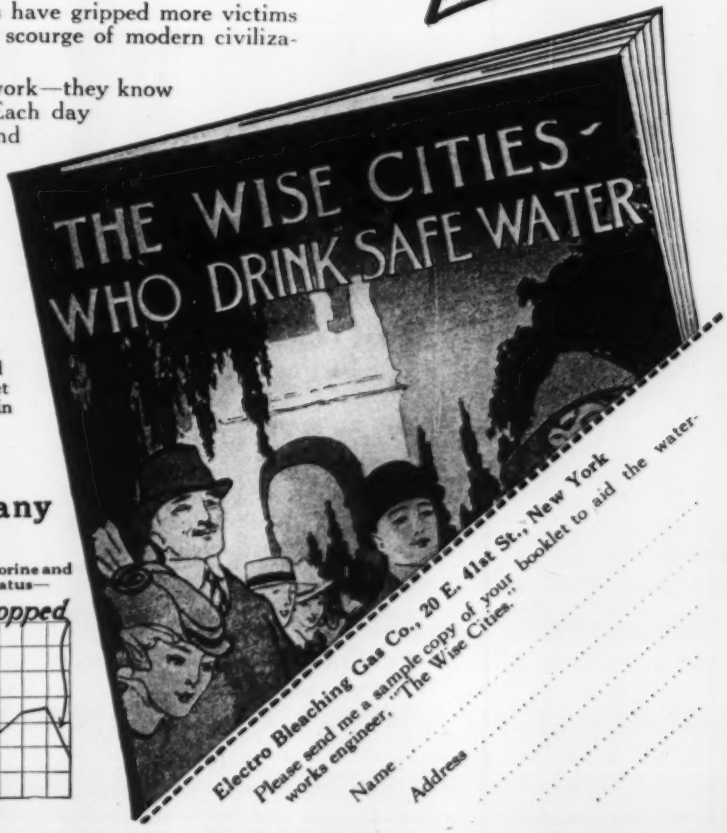
And so with that enemy whose talons have gripped more victims than many wars—"TYPHOID"—the scourge of modern civilization.

Multitudes will not realize its deadly work—they know not how to count its frightful cost. Each day they fight all efforts for pure water and lessening disease—they are content to cast their lot with death.

They must awake! And this booklet will make them. It is for your use—to give to alderman—influential citizens—taxpayers who now fight the small cost of liquid chlorine and a pure water supply—because they cannot realize what this protection means in *dollars and cents*.

This booklet is non-technical—it is highly interesting and it calls the count on Typhoid at every turn. Get copies of this booklet—let it help you awake the millions to the profit in elimating B. Coli.

Copies are free—mail the coupon for a sample—NOW.



Electro Bleaching Gas Co., 20 E. 41st St., New York

Please send me a sample copy of your booklet to aid the water-works engineer, "The Wise Cities."

Name .....

Address .....

Electro Bleaching Gas Company

Manufacturers of Liquid Chlorine and the apparrtus for applying it.

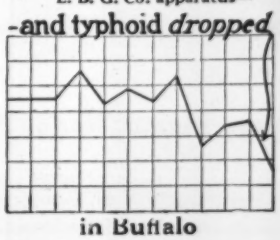
20 East 41st Street, New York

Branch Office: Lumber Exchange Bldg., 12 La Salle St., Chicago

Pacific Coast Representative, California Jewell Filter Co., Merchants Exchange Bldg. San Francisco. Canadian Representative, General Supply Co., Ltd., Ottawa, Toronto, Montreal, Winnipeg.

In Buffalo—Liquid Chlorine and E. B. G. Co. apparatus—

-and typhoid *dropped*



in Buffalo

Bethlehem Steel Company

General Office: South Bethlehem, Pennsylvania

Announces the purchase of the property and plants of the **American Iron and Steel Manufacturing Co.**, located at **Lebanon** and **Reading, Pa.**, which, with the **Bolt and Nut Department** at **Steelton,** gives a complete range of sizes and variety of bolts and nuts,

We solicit your inquiries and assure prompt attention to your orders, and ask you to communicate with our nearest **Branch Office.**

We are prepared to furnish:

Bolts
Machine, Carriage, Lag, Plow, Patch and Track

Nuts
Hot Pressed, Cold Punched, Forged, Finished, Case Hardened and Castle.

Rivets
Boiler, Bridge, Structural, Ship, Tank and Tap.

Spikes
Standard R. R., Screw Track, Universal Screw, Boat, Dock and Wharf.

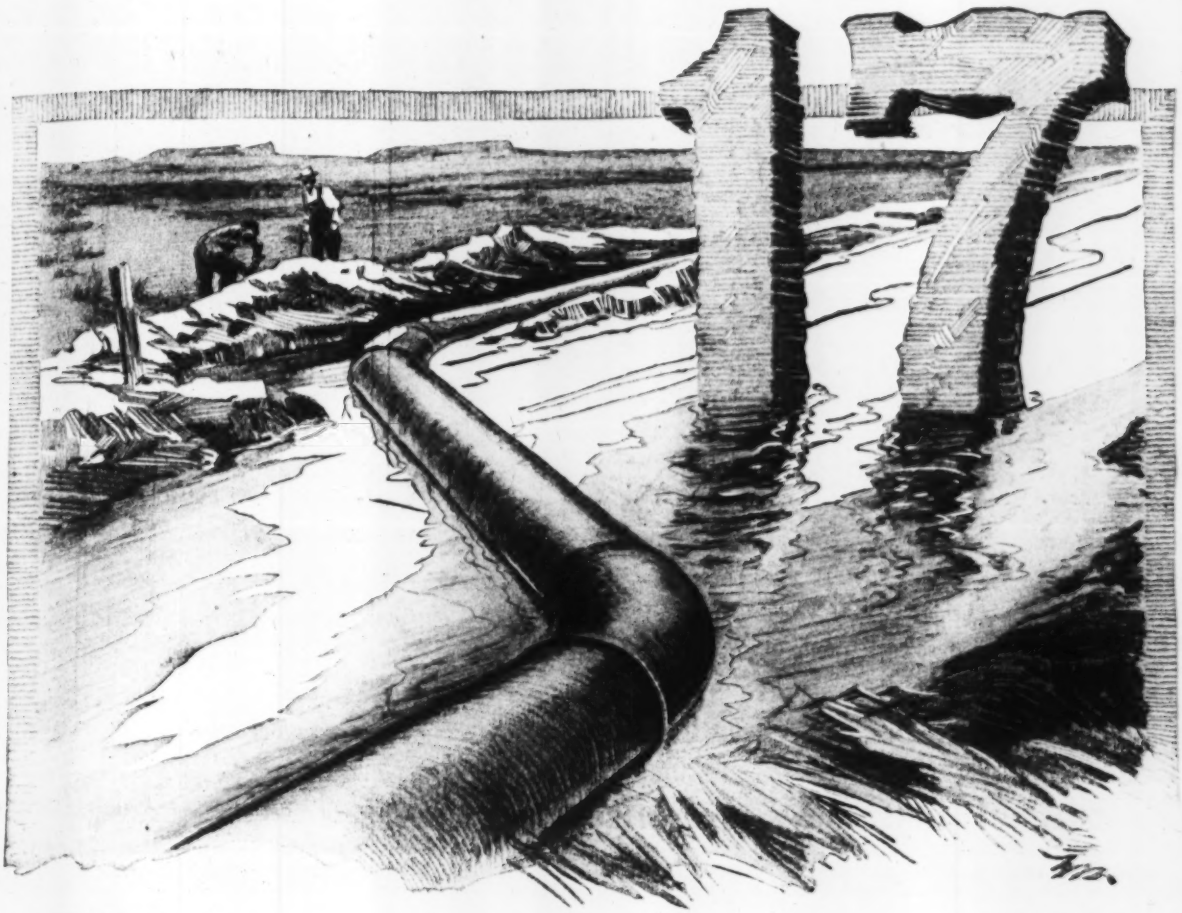
Bar Iron
Refined, Chain, Double Refined, Engine Bolt, Staybolt and Special Staybolt.

Heat Treated Track
Frog and Fitting up Bolts in **Simple Alloy** and **Mayari** Steels.

Branch Offices:

Atlanta	Candler Building	New York	Trinity Building
Boston	Oliver Building	Philadelphia	Morris Building
Baltimore	Continental Building	Pittsburgh	1st Natl. Bank Building
Cleveland	Guardian Building	St. Louis	Boatmen's Bank Building
Chicago	Peoples Gas Building	San Francisco	Crocker Building
Detroit	Penobscot Building		

Warehouses: South Bethlehem, Lebanon, Cleveland, Boston



AID No. 4
(*of the 17 Michigan Water Service Aids*)

Wet Trench Never Halts

MICHIGAN Combination Steel and Wood Water Pipe

"Steel for Strength—Wood for Durability"

Any water-service man who has tackled a wet trench with sheeting and pumps and *then*—tied up because high water stopped the caulkers—can appreciate this service-aid of MICHIGAN PIPE.

You can lay it in a wet trench.

For there is no caulking required and you can lay a MICHIGAN PIPE line with common labor. Accurately turned mortise and tenon joints are quickly fitted and rammed home with a plain wooden ram.

You can make *speed*—in pipe-laying—even in a wet trench.

A word from you brings full data on the 17 service aids of Michigan Pipe.

Here are FIVE of the SEVENTEEN

(1) More than 40 years' service have proven its DURABILITY.

(2) FROSTPROOF—Pressure of internal ice never burst Michigan Pipe.

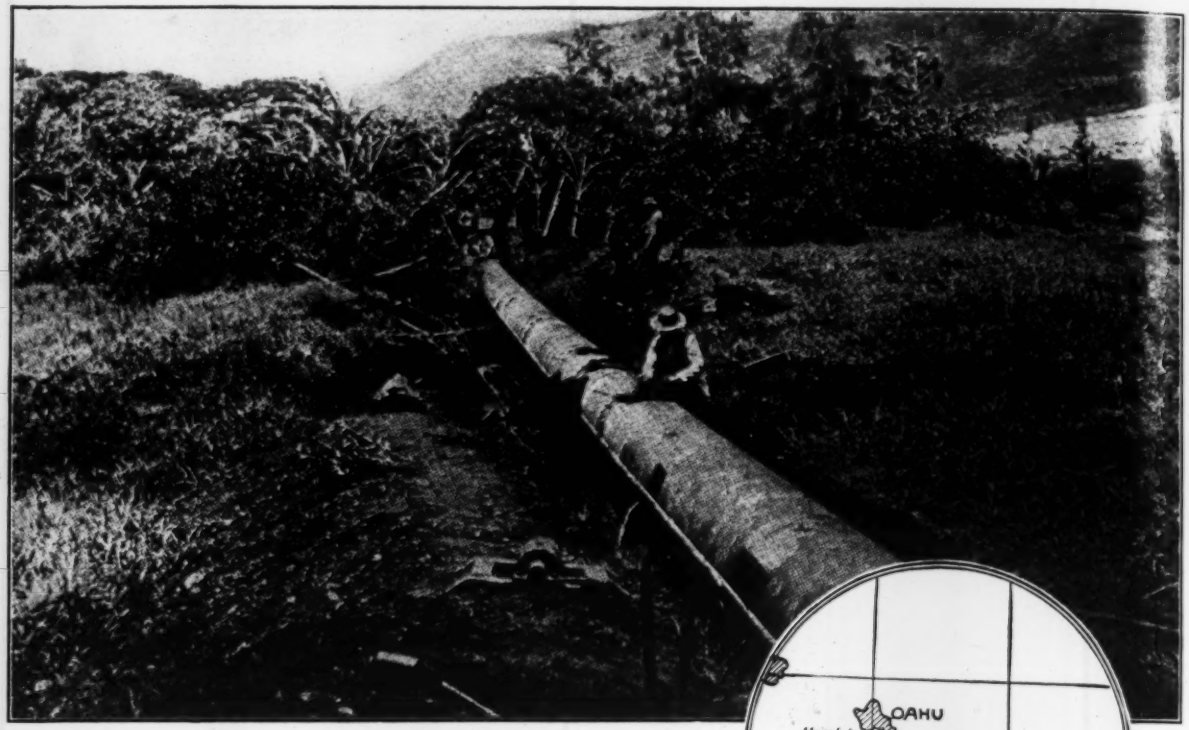
(3) PROOF AGAINST CORROSION—Chemical plants use it.

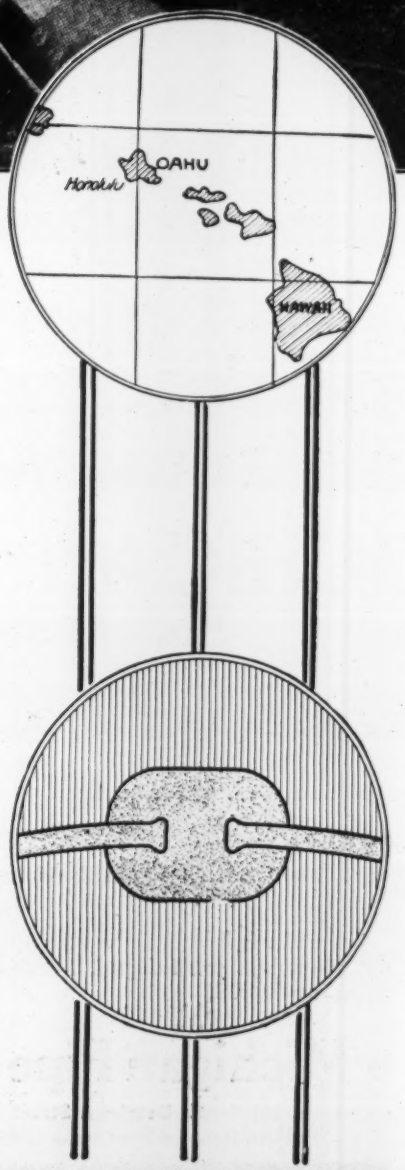
(4) LAID WAIST DEEP IN WATER.

(5) Watch this page next week or—**Write now for the latest Michigan Handbook.**

The Michigan Pipe Co., Dept. 17, Bay City, Mich.

Chicago, 203 South Dearborn Street Boston, 93 Broad Street New York, 30 E. 42nd Street
319 Hamilton National Bank Bldg., Chattanooga, Tenn. 412 Security Bldg., Galveston, Texas





This Picture Was Taken Nine Years ago —in OAHU

Oahu is the one of the Hawaiian Islands on which Honolulu is located.

The picture you see shows an 8000 ft. pipe line built back of Honolulu in 1908.

5600 miles from home—the pipe had to be of material that would not require repairs.

That's why

LOCK BAR STEEL PIPE

was used. The engineers knew the extra safety in the Lock Bar Joint—which is 100% efficient or in other words develops 100% of the strength of the plate.

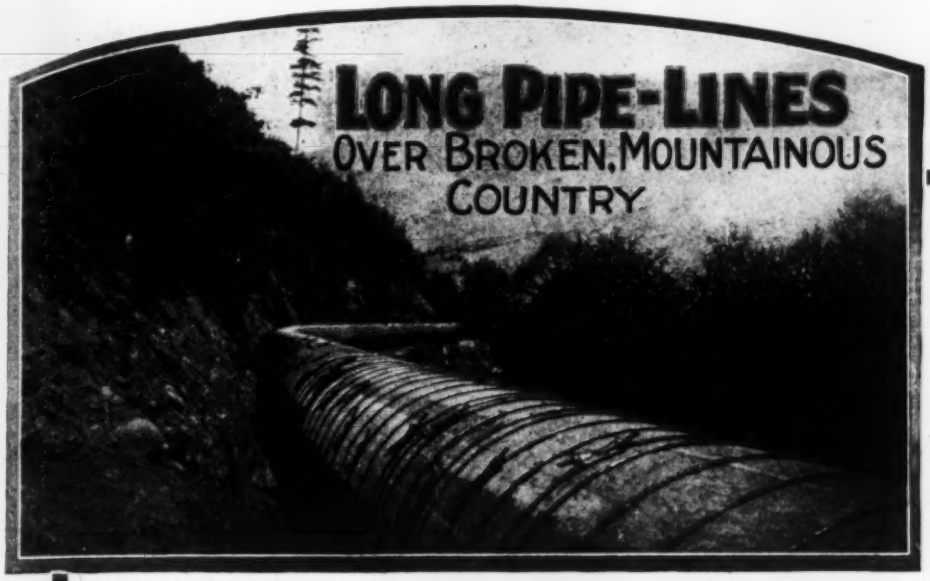
The use of Lock Bar Steel Pipe also *saved money*—for the joint efficiency guards against the purchase of useless metal.

Some of our data on low per year costs on city and private projects will prove very interesting. Tell us something about your proposed work and we'll send some startling information.

EAST JERSEY PIPE CORPORATION

Fulton and Church Sts., New York City.

Works: Paterson, N. J.



Present small difficulty when Pacific Wood Pipe is used

Pacific Wood Pipe

is made of either Redwood or Douglas Fir, as the purchaser desires and the occasion demands. That it is wood pipe in its highest form is attested by the installation of hundreds of thousands of feet every year for the past 30 years.

Is cheaper than steel, wrought or cast iron pipe.

Exceeds steel and wrought iron pipe in durability, classes with cast iron pipe.

Is preserved by water, not rusted.

Is not corroded by sulphur, salt or mineral water or fumes.

Is not destroyed by acids or salts.

Has greater carrying capacity.

Does not burst when frozen.

Can be laid in shallower ditches, or exposed.

Requires less labor to lay.

We solicit the opportunity to have our engineers show you how to get a better, less expensive pipe—in any diameter from 2 inches to 14 feet. Write us.

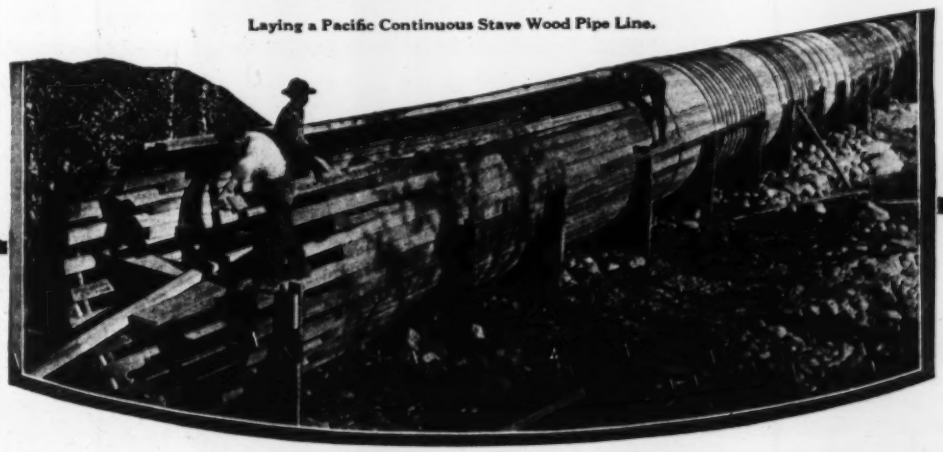
Also Pacific Tanks.

PACIFIC TANK AND PIPE COMPANY

308 Market Street, San Francisco, Cal.

905 Trust and Savings Bldg., Los Angeles, Cal.

Laying a Pacific Continuous Stave Wood Pipe Line.



Guess-Work

PERHAPS there was a time when guess-work served the purpose.

When industrial services consumed approximately the same amount of water month after month, and year after year, estimates or partly efficient meters may have been all right.

But now—when the factories of the nation are meeting abnormal war-time demands in addition to caring for a booming home trade and a fast-growing export business—when the amount of water *needed* has doubled and trebled and the incentive to *careless waste* has correspondingly increased—guess-work won't do!

To prevent a water-loss and a money-loss far exceeding the cost of installation, meters—efficient meters—are demanded.

Large meters are now a necessity!

In Trident-Disk, Trident-Crest, Trident-Compound and Trident-Protectus Meters, you have dependable revenue-producers. Order now to secure speedy delivery.

NEPTUNE METER COMPANY

Trident Water Meters The Weber Subterranean Pump

50 East 42nd St., New York City

Branches:

Atlanta
Chicago
Seattle
Boston
Denver
Portland
Cincinnati
Los Angeles
San Francisco

WORTHINGTON CORPORATION

Worthington and Laidlaw Pumps for Elevator Service —Boiler Feeding —Brine Pumping

The Broadway Department Store
Los Angeles, Cal.

The Broadway Store is a modern nine-story structure with basement and sub-basement, covering eleven acres of floor space.

Its elevator service consists of thirteen passenger, and four freight cars. The passenger cars have a speed of 425 feet per minute; the freight cars, 110.

The Pumping Engine for elevator service is a **Laidlaw** three cylinder, 20 x 25 x 25 x 13½ x 24, furnishing 2400 gallons per minute for the seventeen cars.

Night and Sunday service is furnished economically by two **Worthington Turbine Pumps**, each a 6 in. three stage, direct connected to a 200 H.P. Westinghouse motor. The pumps each have a capacity of 1300 G.P.M. against 175 lb. pressure. These pumps are said to be the largest turbine elevator pumps in use in this country. Their large capacity was the direct reason for the choice of an exactly similar unit for the Bullock Department Store, Los Angeles.

Other Worthington Pumps in the Broadway Department Store are: two 6 x 46 Duplex Boiler Feed Pumps; one 6 x 4 x 6 Duplex Pump for brine pumping.

The excellent service obtained from these Worthington Products furnishes an example of units whose design, construction and performance record is strikingly adequate to the conditions of service.

Back of this and many other notable installations, lies a ripe and valuable experience in the manufacture of hydraulic machinery, which is freely offered to engineers who have pumping problems.

On request, we will send bulletins covering any or all types of pumps, condensers, air compressors, water meters.

WORTHINGTON PUMP AND MACHINERY CORPORATION
115 Broadway, New York
Branch Offices in all Principal Cities 148.8

Steel for Service

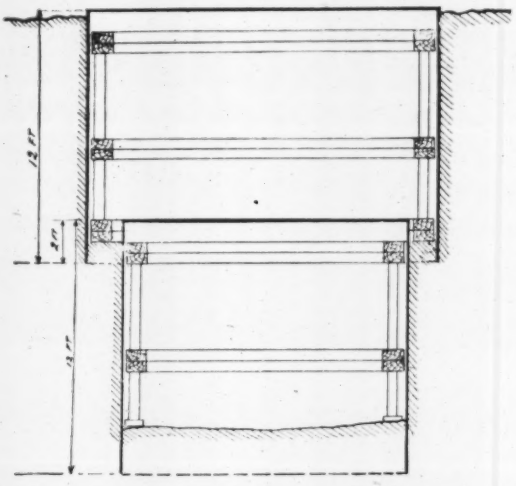


Fig. 1

The constant and usually heavy traffic in the streets of large cities necessitates the best possible protection for the banks of excavations.

Fig. 1 shows the design of bracing used by the Underpinning and Foundation Company on Section 2, Route 20, of the New York Subway.

Fig. 2 is a photograph of a portion of the installation.

United States Steel Sheet Piling

was used in this work to which it is admirably adapted.

This, however, is only one class of work where it is constantly being used with marked success.

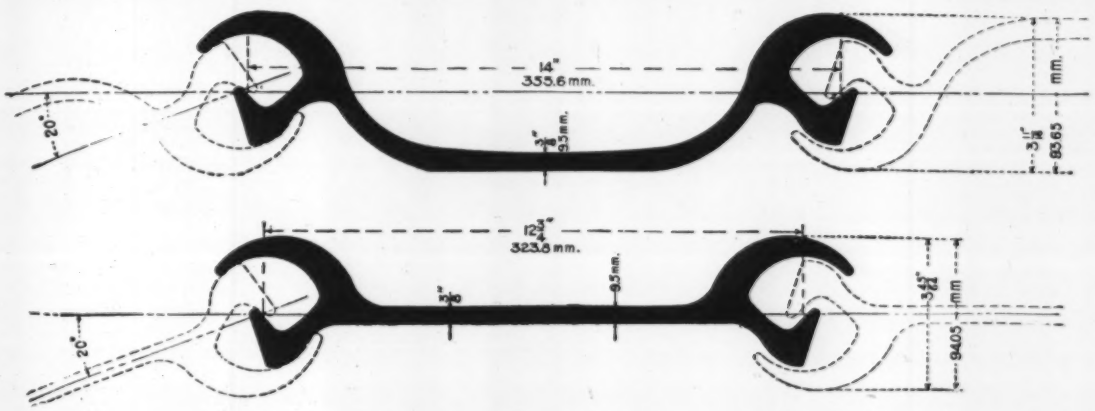
Literature issued by this company and which can be obtained from any district office, describes the use of this type of piling in construction operations from those of simple character to some of the most difficult ever attempted and which, a comparatively few years ago, could not have been carried on except by methods much more costly and in some cases prohibitive.

Fig. 2

Carnegie Steel Company

General Offices, Pittsburgh, Pa.

892



Somewhere in U. S. A.

a dry-dock is being built to take its vital part in the program of Uncle Sam.

Speed was necessary, of course—the utmost despatch in preliminaries and execution. The emergency demanded tried and proven time- and labor-saving methods—and the contractors turned with the confidence of experience to

Lackawanna Steel Sheet Piling

—and upward of 2000 tons of the Lackawanna Sections will be utilized in building the huge cofferdam in record time.

The unequaled transverse strength of the Arched-Web types, and the flexible, free, water-tight, three-point interlock render the Lackawanna Piling Sections ideal equipment for speedy, secure, economical cofferdam or trench work.

And it's easily pulled for the next job.

If you're building drydocks or shipways, retaining walls or bridges, ask us how Lackawanna Steel Sheet Piling can save you time and money.

Our engineers wrote the book "Lackawanna Steel Sheet Piling," which is yours if you are interested.

Lackawanna Steel Company

General Sales Office and Works: Lackawanna, N. Y.

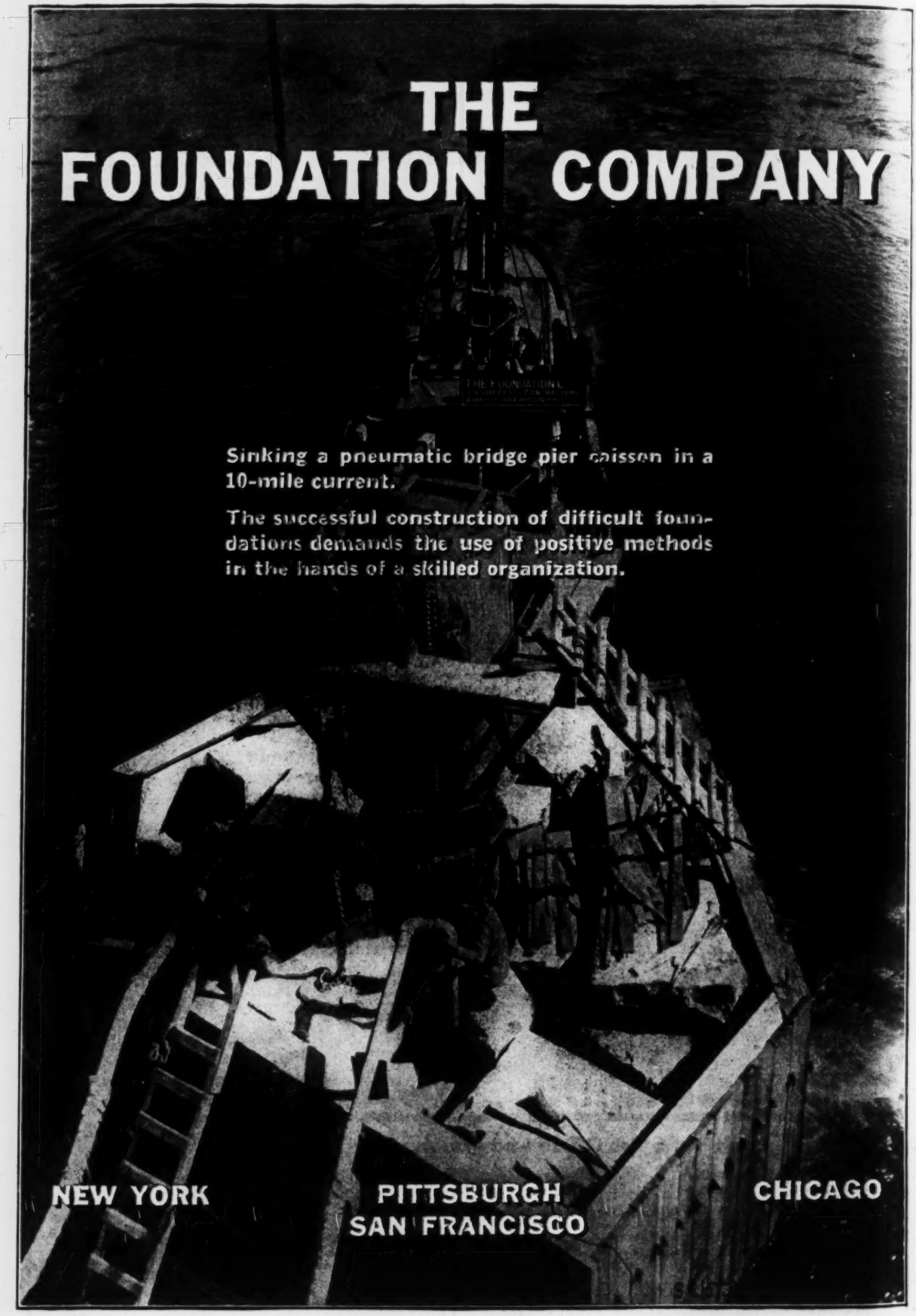
ATLANTA	BUFFALO	CINCINNATI	DETROIT	PHILADELPHIA	SAN FRANCISCO
BOSTON	CHICAGO	CLEVELAND	NEW YORK	ST. LOUIS	HAVANA

Licensees for the manufacture of Lackawanna Steel Sheet Piling:

For Great Britain and British Colonies in the Eastern Hemisphere, Cargo-Fleet-Iron Co., Ltd., Middlesbrough, England. For France, Italy, Spain, French Colonies and Protectorates, Italian Colonies and Spanish Colonies in the Eastern Hemisphere: Cie Des Forges & Aciéries de la Marine et d'Homécourt, Paris, France.

335

THE FOUNDATION COMPANY



Sinking a pneumatic bridge pier caisson in a 10-mile current.

The successful construction of difficult foundations demands the use of positive methods in the hands of a skilled organization.

NEW YORK PITTSBURGH SAN FRANCISCO CHICAGO

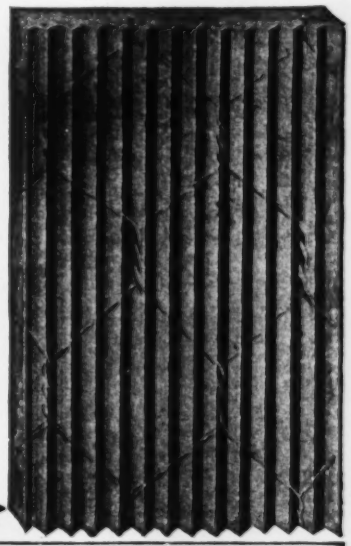
Daylighted means Delighted

with

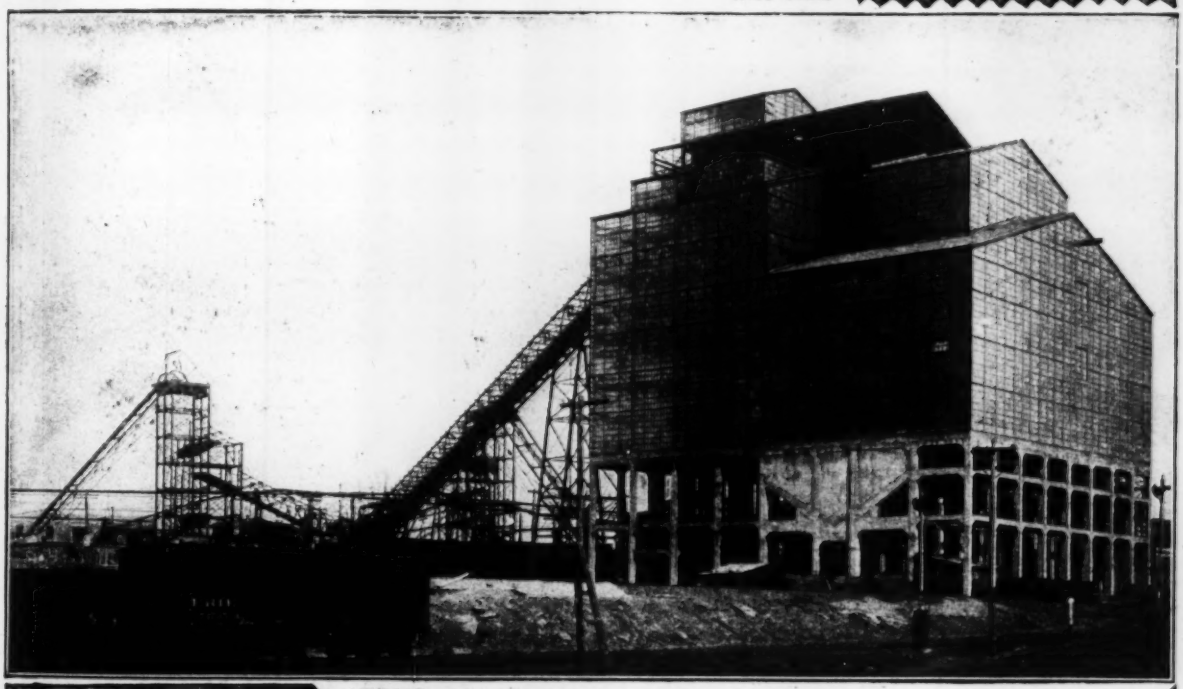
Mississippi Wire Glass

D.L. & W.R.R. Co.'s Loomis Breaker at Nanticoke, Penn., which is glazed with wire glass covering 93.5 per cent. of the surface.

"DAYLIGHTED WITH WIRE GLASS" is practical and essential for economical management of industrial plants.



Pentecor Wire Glass →



← Ribbed Wire Glass

You are interested in minimum cost of maintenance. Be prepared, be posted, be familiar with Wire Glass. The attached coupon entitles you to descriptive catalog and Wire Glass paper weight. Kindly attach coupon to company letterhead if possible.

Mississippi Wire Glass Co.
218 Fifth Avenue
New York
Chicago St. Louis

Mississippi Wire Glass Co.,
218 Fifth Ave., New York.

Gentlemen: Send me a Catalog and Wire Glass Paper Weight as advertised in Engineering News-Record. It is understood this does not obligate me in any way.

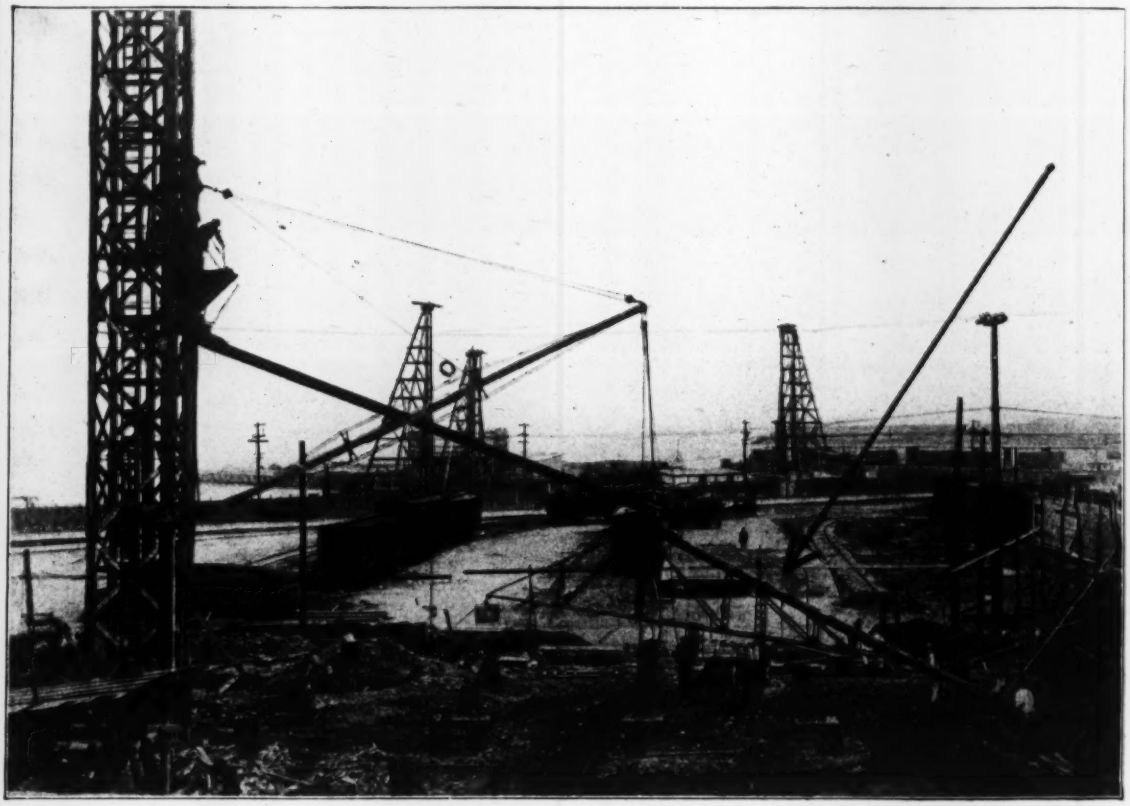
Name .....

Address .....

Insley Counterweighted Chute

for use in connection with

Gravity Plants for Concrete Distribution



Insley Counterweight Chute as used by McDonald & Kahn, San Francisco

The Insley Counterweight Chute, made in 30, 40 and 50 foot lengths, makes it possible to pour concrete anywhere within a 100 foot radius with a tower-supported chute plant. The elimination of both overhead suspension cables and floor supports provides a flexibility of operation which results in a marked lowering of the task of placing concrete.

Write for particulars.

INSLEY MFG. CO. Engineering Manufacturers **Indianapolis**

New York	Columbus	Milwaukee	Cleveland	Omaha	Louisville	San Francisco
Pittsburgh	St. Paul	Boston	Detroit	Cincinnati	Seattle	Kansas City
St. Louis	Philadelphia	Duluth	Denver	Buffalo	Chicago	Salt Lake City

"They Can't Slip—See the Ribs"

This peculiar rib construction, found only in Corrugated Bars, makes it impossible for them to slip in the concrete when under stress.

To combine greater safety and permanence with your concrete construction, use

Corrugated Bars

Round or square bars; standard sizes, cut to any length from stock carried in Chicago, St. Paul, St. Louis, Youngstown, Atlanta, Philadelphia, Boston and Buffalo.

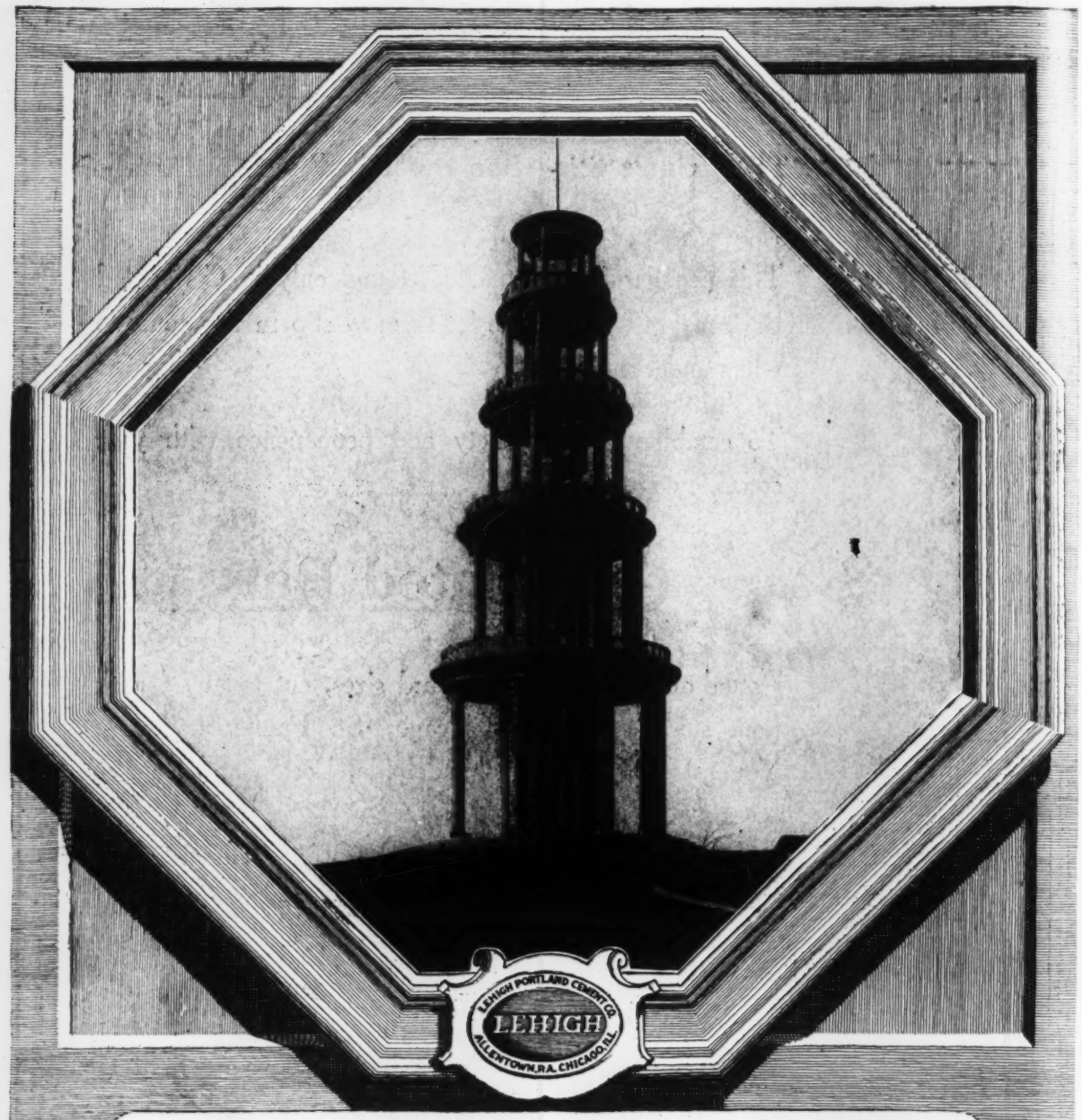
Prompt Shipments

In writing for information, please state your building requirements and give names of your architect and contractor. Please use business letterhead or enclose card.

CORRUGATED BAR CO.

Mutual Life Bldg. **Buffalo, N. Y.**

New York	Boston	Philadelphia	Syracuse
Chicago	St. Louis	Detroit	Milwaukee



MONUMENT AT GEN. LOGAN'S HEADQUARTERS, VICKSBURG NATIONAL MILITARY PARK
LEHIGH CEMENT USED

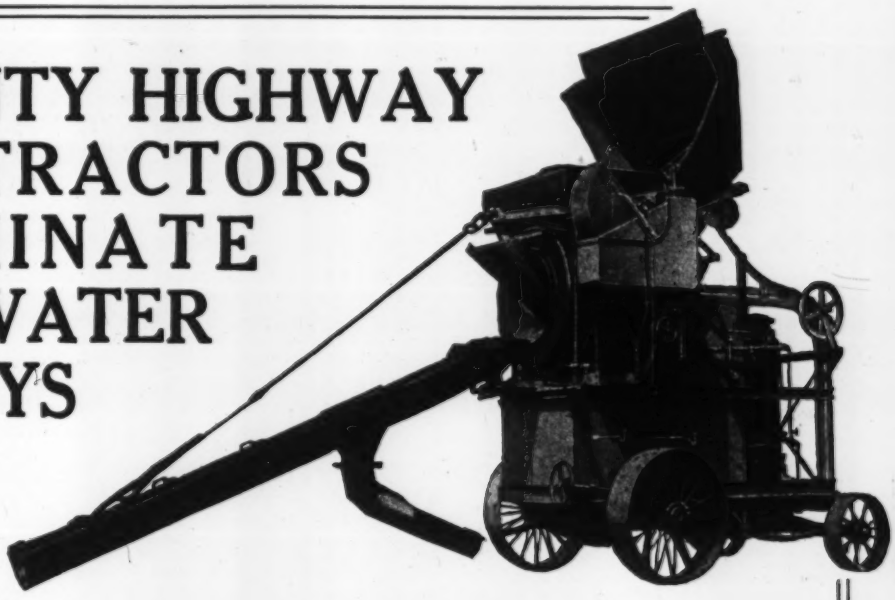
LEHIGH CEMENT

Concrete is one of the most adaptable of building materials. By the use of ornamental forms structures of every type may be beautified at so little expense that the neglect of aesthetic value even in commercial work is poor economy.

LEHIGH PORTLAND CEMENT COMPANY
Member of the Portland Cement Association
CHICAGO, ILL. ALLENTOWN, PA. SPOKANE, WASH.

COUNTY HIGHWAY CONTRACTORS ELIMINATE ALL WATER DELAYS

WITH THE



Smith-Chicago H-D Pavers

An abundance of material on hand, a well-trained gang loading the mixer at top speed, the paving mixer leaving a trail of well-mixed concrete behind it, rosy dreams of big profits and then it happens—the whole gang idle because the stream of water from the pipe line dwindled away to a few drops and then stopped. Ten minutes' delay and things again begin to hum—but ten minutes were lost absolutely. Golden dollars slipped out of your hands—and this happens not once but frequently.

The answer to this problem is securely fastened to the frame work just over the mixer drum on the fast, one-man Smith-Chicago High-Drum Paver—a RESERVE TANK holding enough water to take care of SEVEN batches of concrete, enough to keep the gang going while the usual pipe line trouble is overcome.

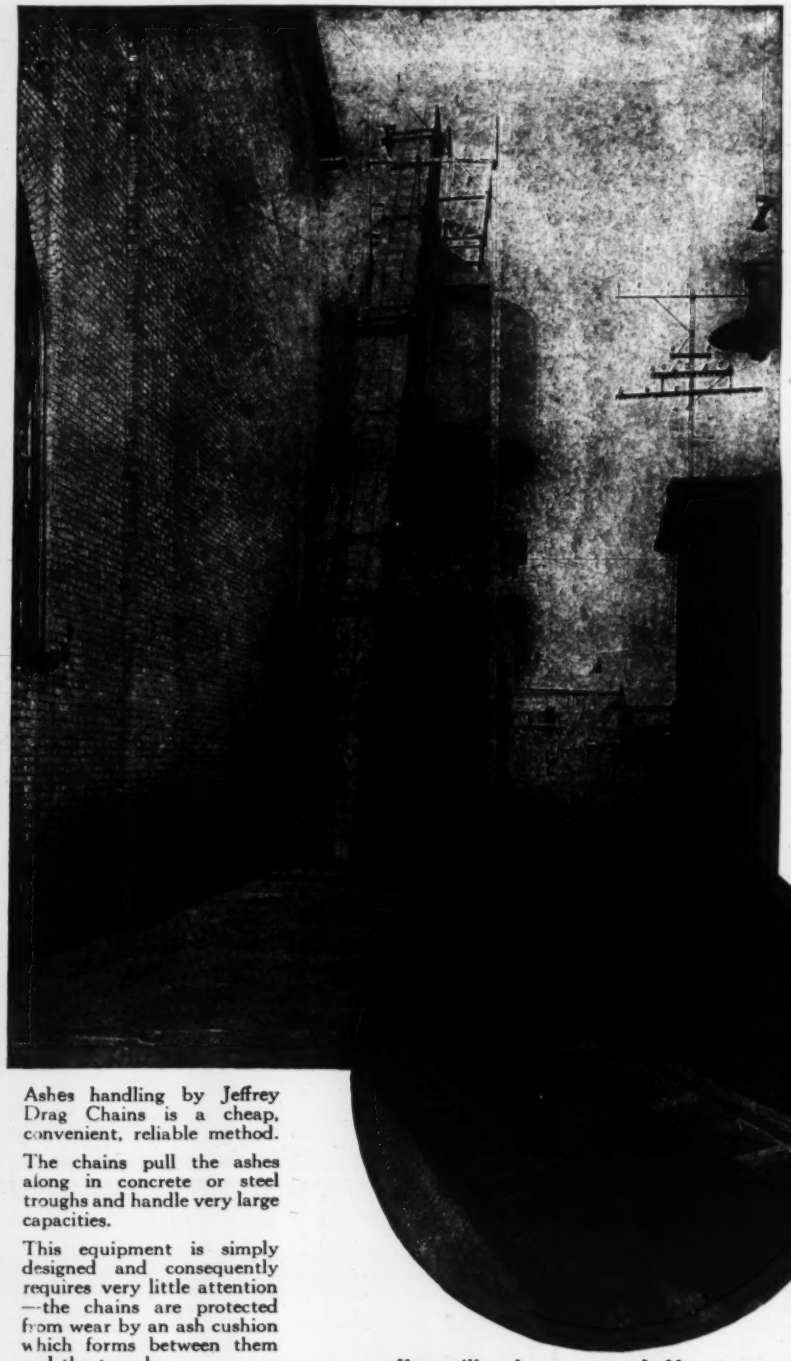
That isn't all that makes the S-C High-Drum Paver of immense value to the highway contractor. There are NINE other BIG FEATURES that this machine has, not more than one or two of which are found on other types of pavers. Read the whole story in our BIG, NEW CATALOG.

Ask for S-C Catalog No. 72-H

THE T. L. SMITH COMPANY

3104-H Hadley Street
MILWAUKEE, WISCONSIN

SMITH-CHICAGO HIGH-DRUM PAVER



—and then Up

Ashes in the Power House of the American Iron & Steel Mfg. Co., Lebanon, Pa., are carried along in a trough from under the Murphy Stokers by a

JEFFREY
RELIANCE DRAG-CHAIN
ASH CONVEYER

—and then up by a 70 ft. Jeffrey elevator to the ash bunker.

This simple system, designed and installed by R. H. Beaumont Company of Philadelphia, and built by us gives the American Iron & Steel Co. an independent ash handling system at low cost.

The Ash Conveyer can be operated and watched from the boiler room above.

We build complete equipment for either coal or ashes handling and equipment combining both functions —all are made from Jeffrey **Standard Units** and you thus obtain special equipment at **standard** prices.

Ashes handling by Jeffrey Drag Chains is a cheap, convenient, reliable method.

The chains pull the ashes along in concrete or steel troughs and handle very large capacities.

This equipment is simply designed and consequently requires very little attention —the chains are protected from wear by an ash cushion which forms between them and the troughs.

A great variety of conditions can be met by adopting our standard units to the work.

If you will send your name and address to our Dept. 23, mentioning this ad, we will be glad to send you complimentary copies of two bulletins describing individual installations of Jeffrey Drag Chain Ashes Handing Equipment.

The Jeffrey Mfg. Company
923 North Fourth St., Columbus, Ohio

New York
Boston
Philadelphia
Cleveland

Scranton
Pittsburgh
Charleston, W. Va.
Chicago

St. Louis
Birmingham
Dallas
Milwaukee

Denver
Seattle
Montreal

The Blaw Bucket

Proper distribution of the weight gives the Blaw Bucket the digging power to grab a full load every time.

The Blaw design has eliminated all unnecessary weight from the head. Over 90 per cent. of the weight is below the main hinge pin when the bucket is open.

That *concentrates* the weight directly on the cutting edges. That's why the Blaw Bucket drives deep—why it has the digging power to fill—from the most stubborn material any bucket can handle.

In stock for prompt shipment are Blaw Buckets for every purpose.

Write us about *your* requirements. We can fill them.

A single outfit of Blaw Steel Forms will handle an indefinite length of Sidewalk, Curb-and-Gutter and Road. Blaw Steel Forms last a lifetime.

Blaw Column Molds give a smooth, even surface, practically eliminating all refinishing. Better work—at lower costs—is done with Blaw Steel Forms.

Blawforms

PATENTED

will cut costs on almost every type of concrete job.

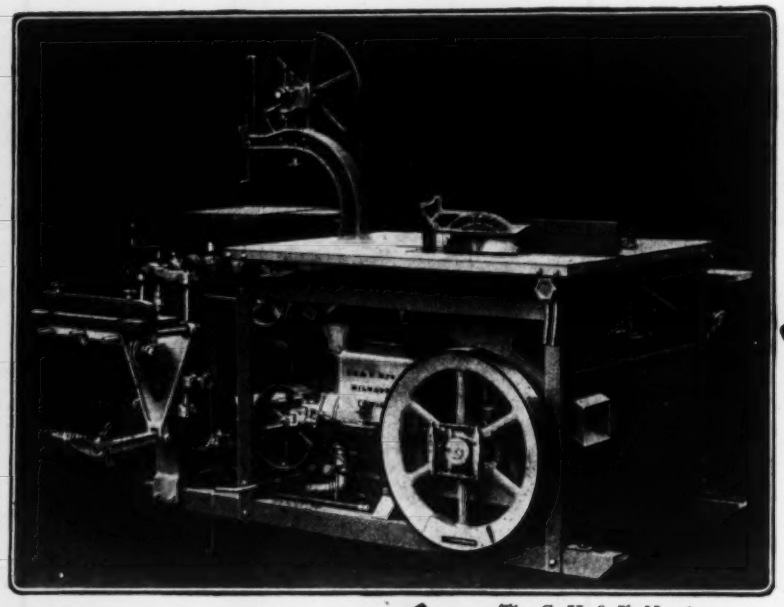
Unskilled labor can move and set up Blaw Steel Forms in far less time than highly skilled men can handle wooden forms. Moreover, Blaw Steel Forms are practically indestructible. They will pay for themselves—in the saving of labor and lumber—on a single fair-sized job. And the same forms are then ready for the next similar job—ready to pay big returns.

Tell us what your job is. We have cut costs on over 20,000 contracts—we can cut costs for you.

Blaw Steel Construction Company

600 Farmers Bank Building - Pittsburgh, Pa.

New York—165 Broadway
Boston—6 Beacon St.
Chicago—Peoples Gas Bldg.
San Francisco—Rialto Bldg.



The C. H. & E. No. 6
Portable Saw Rig

ASK

Cramp & Co.
Philadelphia, Pa.
Westinghouse Church Kerr Co., New York City
Geo. A. Fuller Co., New York City
O'Brien Construction Co., Syracuse, N. Y.
Dahlman Construction Co., Milwaukee, Wis.
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Warren Moore Co., Philadelphia, Pa.
And many others. Over three thousand Portable Saw Rigs now in active use.

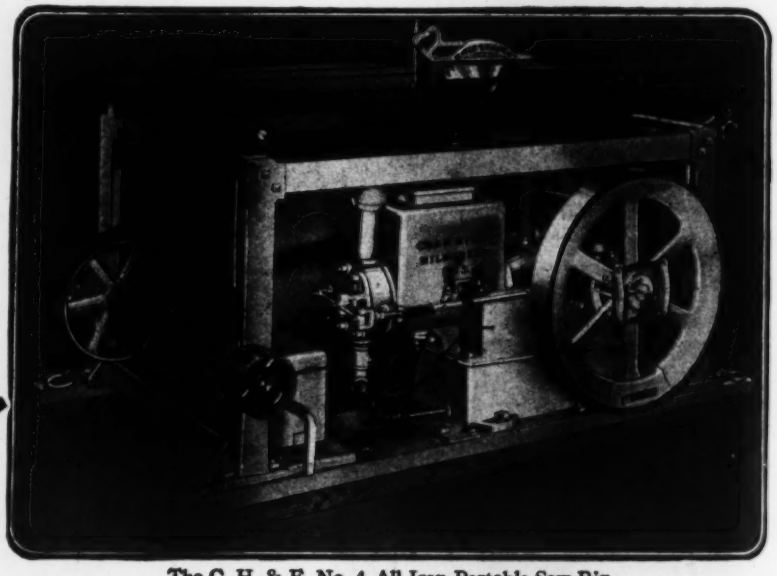
Also Pumps, Hoists, Mortar Mixer, Engines

C. H. & E.
PORTABLE SAW RIGS

will help you. Labor is a big item on all your construction work. You can make every contract a bigger profit-payer and handle more jobs, if you will put some part of the C. H. & E. line of Contractors' Equipment to work for you.

IMMEDIATE SHIPMENT

Write for large, new, C. H. & E. catalog just off the press, that tells you all about these Saw Rigs—gives you a full description of each and every attachment.



The C. H. & E. No. 4 All Iron Portable Saw Rig

C. H. & E. Manufacturing Company, Inc.

500 Clinton Street Milwaukee, Wis.

Cooperative Service to the Export Buyer

THE ALLIED CONSTRUCTION MACHINERY CORPORATION is a cooperative selling organization. It is under the management and direction of the American International Corporation, the largest financial organization in the United States devoted to the promotion of foreign trade. Participating with this financial interest is a group of non-competing American manufacturers who have turned their export business over to a common sales force.

The Allied Construction Machinery Corporation is that common sales force. It is neither an agency nor an intermediary—it is essentially a part of each of the several interests which have formed it.

Its cooperative sales plan offers many advantages. Among them are:

The foreign buyer who deals with it is dealing directly with a group of manufacturers.

The buyer can secure from this single export sales organization a complete line of construction machinery, backed by undivided responsibility for shipments, credits and guarantees.

The buyer deals with a sales organization of engineers experienced in the use of construction machinery. These engineers are qualified to recommend the class of equipment best adapted to the buyer's requirements. Since it sells a complete line, its recommendations are unbiased.

The foreign buyer of American construction equipment can secure these advantages only by purchasing from the Allied Construction Machinery Corporation.

The following manufacturers have joined this cooperative sales plan in all countries outside of the United States and Canada:

The Lakewood Engineering Company, Cleveland, Ohio
The Thew Automatic Shovel Company, Lorain, Ohio
The Parsons Company, Newton, Iowa
The Hydraulic Pressed Steel Company, Cleveland, Ohio
(Concrete Form Department)
The Western Wheeled Scraper Company, Aurora, Illinois

For France, Spain, Italy, Portugal, Belgium and their colonies; the West Indies and China.

ALLIED CONSTRUCTION MACHINERY CORPORATION
Under the management and direction of the AMERICAN INTERNATIONAL CORPORATION
120 Broadway New York, U.S.A.

Linked up with Lakewood

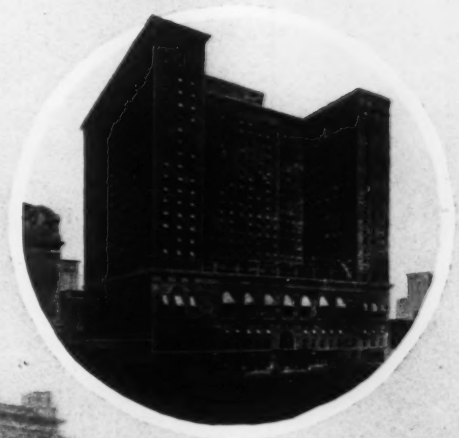
Jas Lockhart
CHIEF ENGINEER

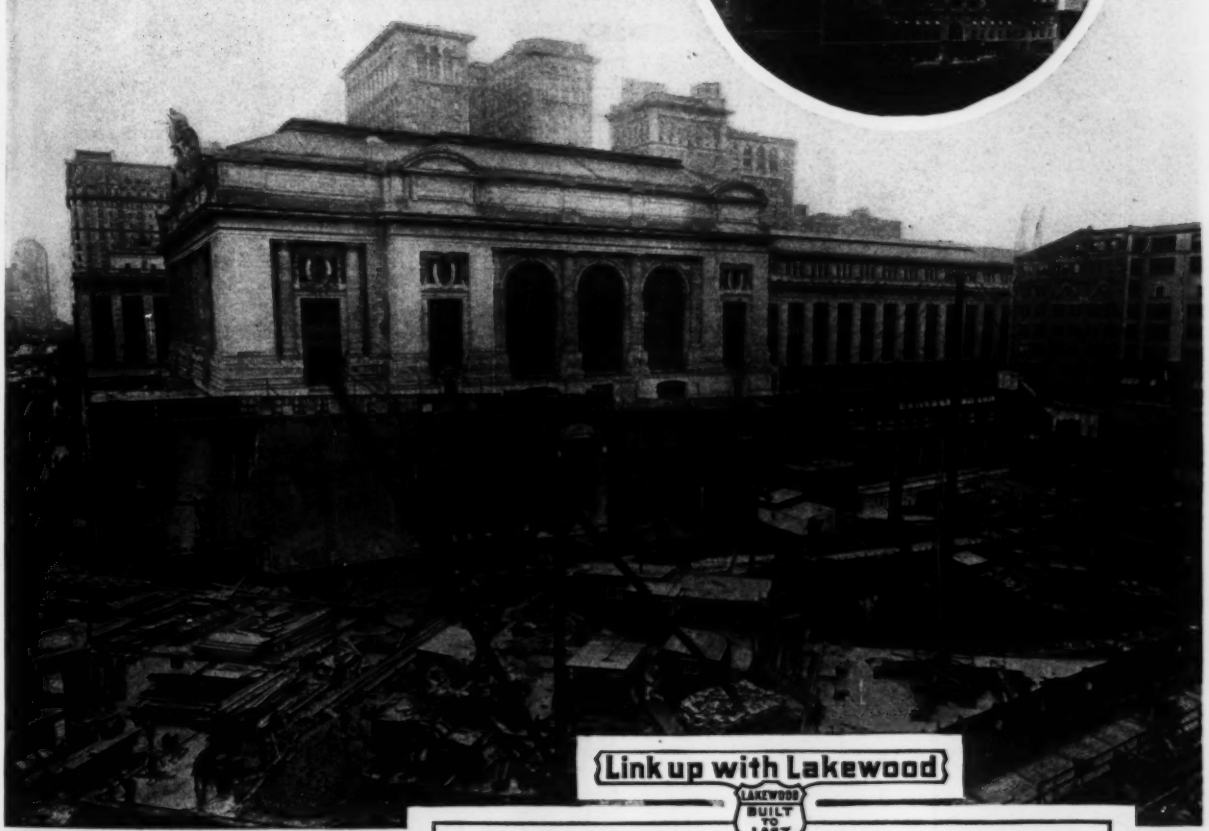
Link up with Lakewood
LAKEWOOD BUILT TO LAST

Lakewood Engineering Co. Cleveland

Sales outside of the United States and Canada handled through the ALLIED CONSTRUCTION MACHINERY CORPORATION, New York U.S.A.

COMMODORE HOTEL
New York City
GEORGE A. FULLER CO., NEW YORK CITY
Contractors.





Link up with Lakewood

LAKEWOOD BUILT TO LAST

Lakewood Engineering Co. Cleveland

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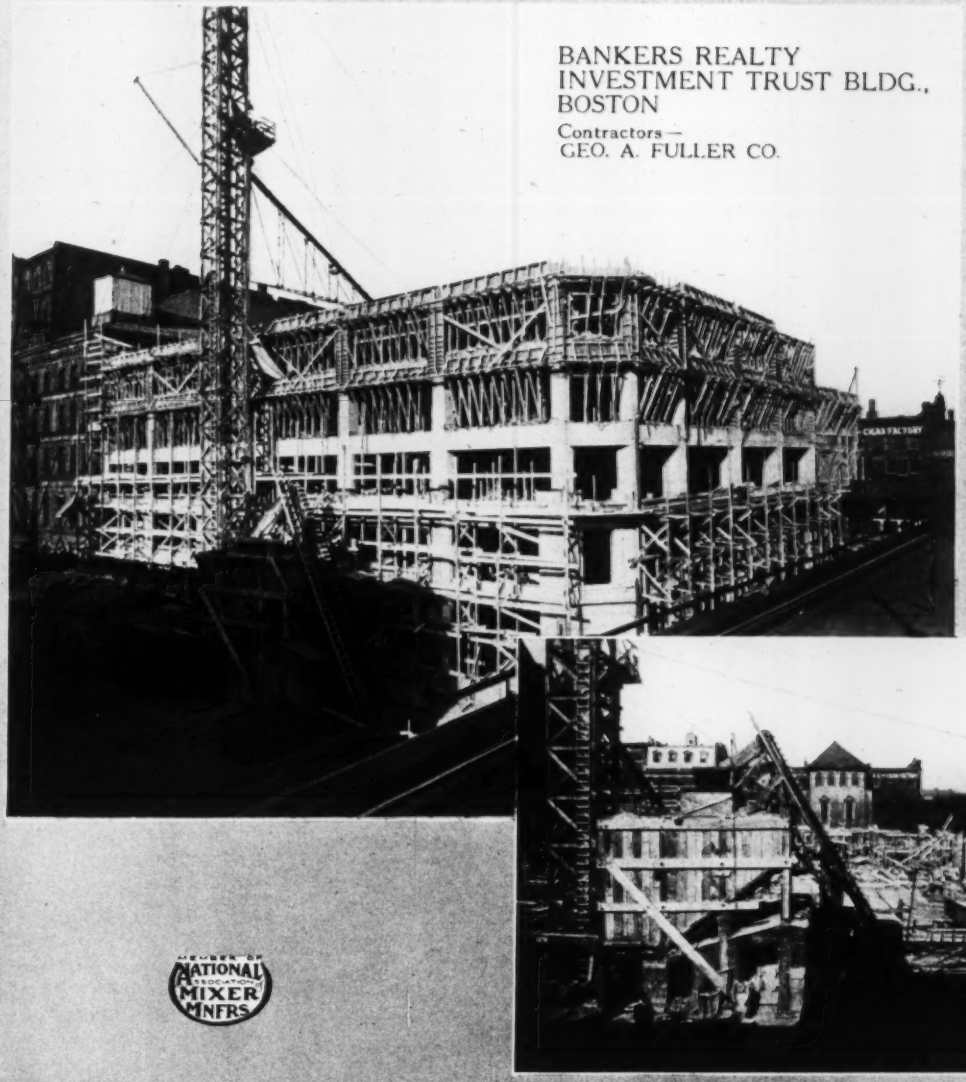

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Lakewood Engineering Co. Cleveland

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Lakewood Type 640—
Clam Shell Bucket
unloading sand after
dredging from river bottom.
Contractors—
THE CADILLAC BUILDERS' SUPPLY CO.,
Detroit

MEMBER OF NATIONAL ASSOCIATION OF MIXER MNFRS

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LAKEWOOD BUILT TO LAST

Lakewood Engineering Co. Cleveland

Sales outside of the United States and Canada handled through the ALLIED CONSTRUCTION MACHINERY CORPORATION, New York, U.S.A.

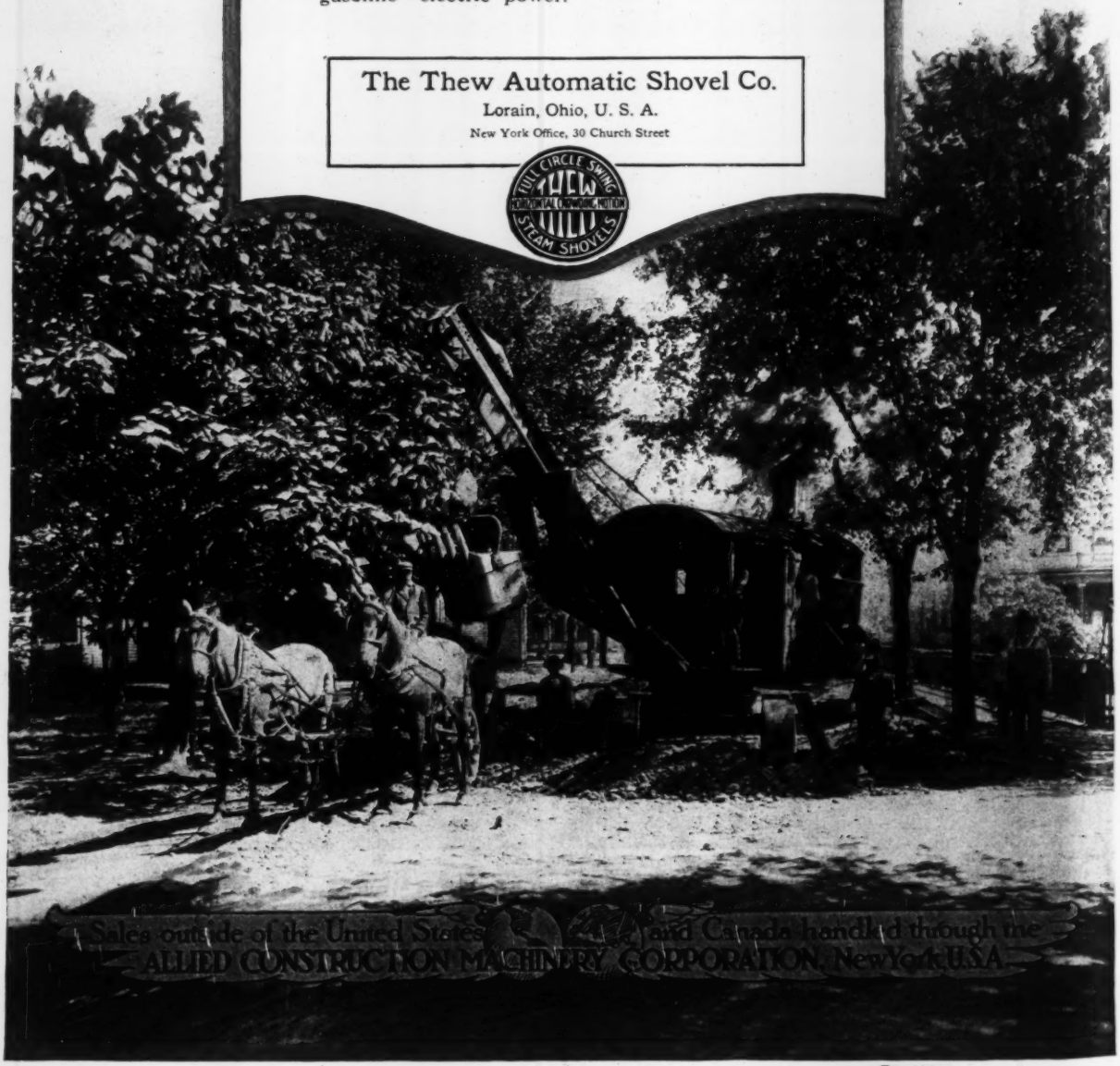
Shallow Street Grade Excavation, But—

while grading St. Joe Boulevard, Fort Wayne, Ind., the Thew Shovel averaged daily 1500 square yards, cutting from 6 inches to 2 feet.

The Thew Automatic crowding-motion assures highest efficiency on shallow cuts, and a smooth floor. Yet, when necessary, the "Thew" will reach up and load high.

There is a "Thew" for every job. Steam—gasoline—electric power.

The Thew Automatic Shovel Co.
Lorain, Ohio, U. S. A.
New York Office, 30 Church Street


FULL CIRCLE SWING
THEW
HORIZONTAL CROWDING MOTION
STEAM SHOVELS
Sales outside of the United States and Canada handled through the
ALLIED CONSTRUCTION MACHINERY CORPORATION, New York, U.S.A.

And HERE is
PARSONS Model 48

with which you can dig a trench from 24 inches to 48 inches wide and from a few inches down to 18 feet deep. A powerful, husky looking brute of a machine, isn't it? Its big feature lies in the fact of its wide range of action.

Not just ONE size trench but a RANGE of sizes. In this it is like all the other Parsons models.

Note also the powerful "Parco" traction and general "all steel" construction. Write for full details—ask for Catalog "R."

The Parsons Backfiller

does the work of a number of teams. Four big loads a minute. One man operation. It can't tip. It won't slip. It's as steady as a stump. Write for Backfiller Booklet.

The PARSONS CO.

210 2nd St., NEWTON, IOWA

Eastern Sales Office: 18 West 34th Street, New York

Chicago Representative
W. B. Louer Company, Old Colony Bldg., Chicago, Ill.

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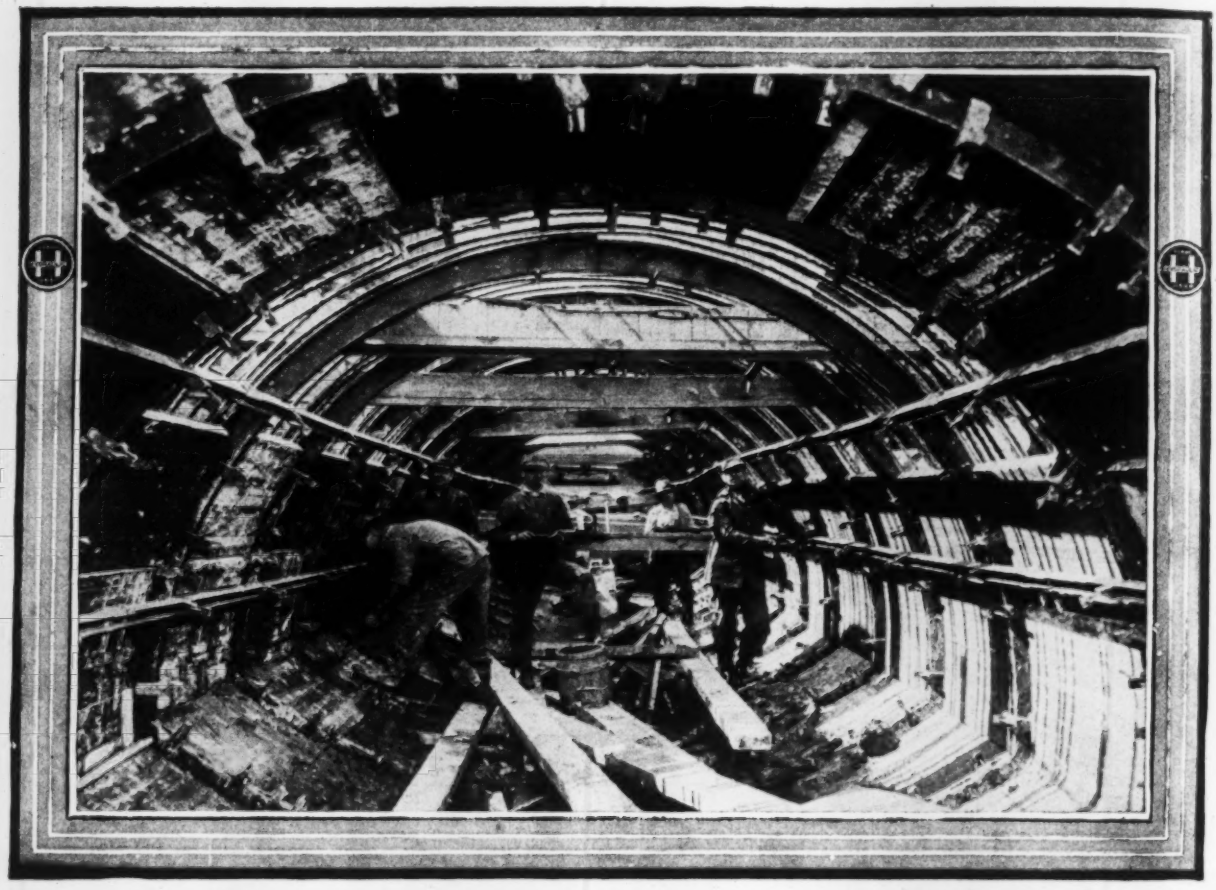


Have You PLENTY of MEN?

Have you carpenters and skilled laborers galore—are good men hounding you for jobs—is the price of lumber going down every day? If so—don't you stop to read this "Hint to Contractors."

BUT—if you want to know now to get fine, clean concrete work with only a handy man and three huskies placing your HYDRAULIC PRESSED STEEL FORMS—*write us.*

The Hydraulic Pressed Steel Company

Cleveland, O., U. S. A.

Chicago Office: Fisher Building, 342 Dearborn St.
New York Office: Equitable Building, 120 Broadway

Sales outside of the United States and Canada handled through the
ALLIED CONSTRUCTION MACHINERY CORPORATION, New York, U.S.A.

Making the MOST of Your Men

Men are scarce and getting scarcer. Labor costs are soaring.

Day and night your small gangs give you bigger output when the job is well lighted.

Carbic Lights are quickly moved where and when needed. On the interior of buildings and in close quarters underground on foundation work—they give clear, clean light—free from smoke and soot. Charged in ⅓ the time required for other lights—and kept running full blast by common labor. No skilled attention needed.

Best of all—**they cost less to operate.** That is caused by the simple, automatic control of gas generation and—the CARBIC CAKE—the latest advance in lighting material.

We prove these facts on your work—ree of cost or obligation. **Put it up to us—write.**

Carbic Manufacturing Co., Duluth, Minn.

Branch Offices:

New York: 52 Vanderbilt Ave. **Chicago: 53 Jackson Blvd.**
Boston: 27 School St. **Philadelphia: 18 South 7th St.**

Warehouses and representatives in other principal cities
Wire branch office for address of nearest representative

You Specify it, too—

—For concrete roof and floor slabs, used as combined form and reinforcing. The reinforcing value of its T-Ribs and the anti-seepage feature of its mesh make Chanelath at once the most *efficient* and *economical*.

CHANELATH

Trade Mark Reg. U.S.P.O.

Chanelath used in this building of the Philadelphia Yeast Mfg. Company, Otto C. Wolf, architect and engineer; A. Raymond Roff, builder; C. C. Boulden, lathing and plastering; Drehman Paving Co., concrete floors. Ceilings and partitions—26 gauge Chanelath; floors 24 gauge Chanelath.

Exhaustive tests conducted by the Building Inspection Bureau of Philadelphia, more than confirm the claims we have made regarding seepage, deflection and strength.

You are invited to make careful investigation of Chanelath as a means of greater efficiency and positive economy in concrete construction.

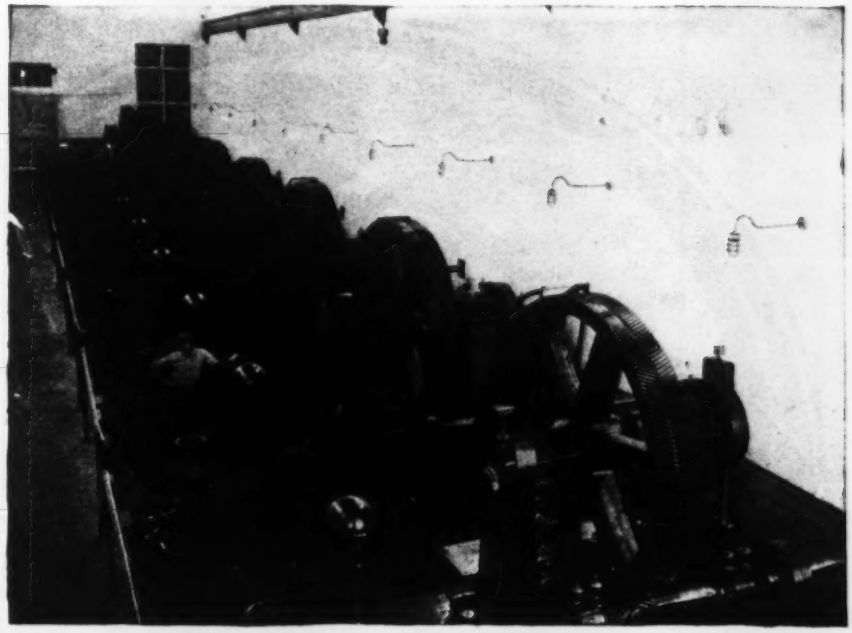
North Western Expanded Metal Co.

Members of the Associated Metal Lath Manufacturers

900 Old Colony Building
CHICAGO, ILL.

Look at Those Gears

See How Clean and Even the Teeth Are



For more than Two Years These Gears *have been running Right*

They have been running surely, evenly, noiselessly.

There has been little or no wear on the teeth.

Because over two years ago they began to LUBRICATE these huge pump gears with

TEXACO CRATER COMPOUND
The Great Gear Lubricant

When you put TEXACO CRATER COMPOUND on a set of gears you really LUBRICATE them.

TEXACO CRATER COMPOUND stays where it is put. It doesn't drip. It isn't squeezed out or flung off by centrifugal force. It doesn't crack, harden, peel or flake. It's a pure lubricant and always oily to the touch. It keeps a live film of lubricant between the wearing surfaces. Reduces friction. Prevents cutting. Banishes noise. It doesn't make any difference how large or heavy the gears are, CRATER makes good. CRATER is being used today on gears of all kinds, on pumps, on steam shovels, on dredges, on road rollers, and elsewhere.

The CRATER BOOK, 32 pages, illustrated, tells more about it. Write for a copy—or better yet, ask us to send you a 25-pound can on approval. We'll send this express prepaid and you won't be called upon to pay for it unless you are absolutely satisfied.

There is a Texaco Lubricant for Every Purpose.

THE TEXAS COMPANY
Dept. N. 3, 17 Battery Place, New York City
HOUSTON CHICAGO NEW YORK
Offices in Principal Cities

Building Bigger Business by Better Methods

Record outputs are being made by G-E Motor Drive at quarries

WHEN you cut down manufacturing costs—up go your profits. When you increase your production—when you increase the quality of your products — when you decrease spoilage—*up go your profits.*

When you make it easier for an employee to produce more, you make it easier for him to *earn* more; and you find it easier to get the *better kind* of help and much easier to *keep* them. *And up go your profits.*

When you cut down your power costs, when you cut down maintenance of plant—when you reduce overhead supervision—when you lessen breakage of machinery—when you reduce stoppage of machinery—these mean *more profits.*

These advantages and a greatly increased capacity for service to your customers come to plants equipped with G-E Motor Drive.

We will gladly send a member of our Engineering Organization who will study the requirements and conditions of your plant, and tell you how, where and why G-E Motor Drive will give you manufacturing advantages.

G-E Motor Drive

GENERAL ELECTRIC COMPANY

General Office, Schenectady, N.Y. **Sales Offices in all large cities**

7020

SEARCHLIGHT SECTION

Contracts To Be Let

PROPOSALS

Bids received until July 13, 1917.

Barge Canal Terminals

STATE OF NEW YORK, OFFICE OF SUPERINTENDENT OF PUBLIC WORKS

Albany, N. Y., June 15th, 1917.

Sealed proposals will be received by the undersigned at his office in the Capitol at Albany, N. Y., until twelve o'clock noon of Friday, July 13th, 1917, at which place and hour they will be publicly opened and read, for the construction of Barge canal terminals pursuant to the provisions of Chapter 746 of the Laws of 1911, and of the acts amendatory thereof, as follows:

TERMINAL CONTRACT NO. 103.

For furnishing, installing and testing portable package freight conveyors for terminals at Rochester, Utica and Schenectady.

Contract plans sheets 1 and 2.

Plans may be seen and detailed specifications, engineers' estimate of quantities, proposal blanks, form of contract and bonds required and other information for proposers may be had at the office of the Superintendent of Public Works at Albany, N. Y., at the office of the Assistant Superintendent of Public Works for the Middle Division at Syracuse, N. Y.; at the office of the Assistant Superintendent of Public Works for the Western Division at Rochester, N. Y., and at the canal office, Spaulding's Exchange, Buffalo, N. Y.

Copies of detailed plans of drawings may be obtained from the State Engineer and Surveyor at Albany, N. Y., upon payment to him of the cost of producing them.

Monthly estimates will be paid of ninety per centum (90 per cent.) of the work done at the contract price. Every proposal for said work must be accompanied by a money deposit in the form of a draft or certified check upon some good banking institution in the City of Albany or New York, issued by a national or State bank, in good credit within the State and payable at sight to the Superintendent of Public Works for five per centum (5 per cent.) of the amount of the proposal.

The person whose proposal shall be accepted will be required to execute a contract and furnish bonds within ten days from the date of notice of award delivered to him or them in person or mailed to the address given in the proposal.

Upon execution of the contract and approval of bonds, the certified check or draft will be returned to the proposer unless the same shall have been presented for collection prior to such time, in which case the amount of the deposit will be refunded by the Superintendent of Public Works.

The deposits of bidders other than the one to whom the award of contract shall be made will be returned immediately after the award has been made.

The bond required for the faithful performance of each contract shall be in such sum as shall be fixed by the Superintendent of Public Works, which sum shall not be less than twenty per centum (20 per cent.) of the estimated cost of the work according to the contract price, and an additional bond, known as the labor bond, in the sum of ten per centum (10 per cent.) of the amount of the estimated cost of the work according to the contract price, will be required as security that the contractor will pay in full at least once in each month all laborers employed by him upon the work specified to be done in the contract.

In the event that more than one surety company is offered as surety on said bonds co-insurance only will be accepted.

Each proposal must be addressed to the Superintendent of Public Works, Albany, N. Y., and must be endorsed on the envelope with the name of the construction for which the proposal is made.

Award, if made, will be made to the person or persons whose proposal shall be lowest in cost to the State for doing the work and which shall comply with all provisions required to render it formal. Before any award shall be made the lowest bidder will be required to satisfy the Superintendent of Public Works of his ability to provide suitable equipment and materials for the proper performance of the work.

The right is reserved to reject all proposals and readvertise and award the contract in the regular manner if, in the judgment of the undersigned, the interests of the State will be enhanced thereby.

W. W. WOTHERSPOON,
Superintendent of Public Works.

Official Proposals

Price, $3.60 an inch—Copy can be received until Wednesday, 10 a. m. for issue mailed the next day

PROPOSALS

Bids received until July 9, 1917.

County Road Improvement

Winfield, W. Va., June 1, 1917.

Sealed proposals addressed to the County court of Putnam County, Winfield, W. Va., will be received until 2:00 P.M. July 9, 1917, by the County Court of Putnam County for furnishing the necessary labor and materials for constructing approximately 6 miles of road in Pocatalico District, Putnam County, according to plans and specifications on file in office of Road Engineer, Poca, W. Va.

Each bid must be accompanied by a cash deposit or a certified check payable to order of Sheriff of Putnam County for credit to the Pocatalico District Road Fund for an amount equal to five (5) per cent. of the sum total of the proposal or bid as a guarantee of good faith.

Detail plans, specifications and maps of the work may be seen and examined after July 2nd, 1917, at the office of Ernest Bruce, Road Engineer, Poca, W. Va., and the office of the County Clerk.

The County Court reserves the right to reject any or all bids for any or all sections of said work.

By order of the County Court of Putnam County, W. Va., June 1, 1917.

J. M. HENSON, Clerk.

PROPOSALS

Bids received until July 9, 1917.

Highway Work

OFFICE OF THE STATE COMMISSION OF HIGHWAYS

Albany, N. Y.

Sealed proposals will be received by the undersigned at their office, No. 55 Lancaster Street, Albany, N. Y., at one o'clock p. m. on Monday, the 9th day of July, 1917, for the repair of highways in the following counties:

Albany (two contracts—resurfacing and reconstruction).
Broome (two contracts—resurfacing)
Cattaraugus (one contract—resurfacing).
Chautauqua (one contract—reconstruction).
Columbia (one contract—reconstruction).
Erie (one contract—resurfacing).
Essex (one contract—resurfacing).
Greene (one contract—surface treatment).
Herkimer (one contract—surface treatment).
Jefferson (one contract—resurfacing).
Livingston (two contracts—resurfacing).
Monroe (one contract—resurfacing).
Oneida (two contracts—resurfacing and surface treatment).
Ontario (one contract—resurfacing).
Orange (one contract—reconstruction).
Oswego (two contracts—surface treatment).
Otsego (one contract—reconstruction).
Saratoga (one contract—resurfacing).
Seneca (one contract—resurfacing).
Steuben (one contract—resurfacing).
Washington (one contract—surface treatment).

Also broken stone contract No. 74, Erie County, on Road 1038 for No. 1 Stone 450 tons.
No. 2 Stone 375 tons.
No. 3 Stone 3200 tons.

Maps, plans, specifications and estimates may be seen and proposal forms obtained at the office of the Commission in Albany, N. Y., and also at the office of the Division Engineers in whose division the roads are to be improved. The addresses of the Division Engineer and the counties in which they are in charge will be furnished on request.

The especial attention of bidders is called to "General Information for Bidders" on the itemized proposal, specifications and contract agreement.

EDWIN DUFFEY, Commissioner.
I. J. MORRIS, Secretary.

Bids received until July 10, 1917.

Log Road Construction

Putnam, Va.

Bids will be received by the undersigned for the grading of 6 miles of standard gauge log road in Russell and Buchanan Counties, Virginia, according to Plans and Specifications, which can be seen at the office of the undersigned at Putnam, Va., or at the office of J. P. Williams, Jr., Chief Engineer, Tazewell, Va.

WHITE OAK LUMBER CO.

Bids close July 10th, 1917.

SEARCHLIGHT SECTION

Contracts To Be Let

PROPOSALS

Bids received until July 2, 1917.

Bridge Superstructure for Sale

Bridgeport, Conn.

Sealed proposals will be received by the undersigned until 12 o'clock noon, Monday, July 2, 1917, for the sale of approximately 300 tons of wrought iron bridge superstructure—bridge built in 1888 and used for general highway and street railway traffic.

The bridge consists of one pony iron truss draw span, 174 ft. 5 in., center to center of end posts; with iron floor beams; depth of trusses at center, 12 ft. Weight approximately 150 tons.

Eight iron lattice deck girder spans about 41 ft. each.

Weight approximately, 150 tons.

Roadway of draw span about 28 ft.

Roadway of fixed spans about 31 ft.

Sidewalks about 9 ft.

Material to be available about August 15, 1917.

Check of 5% of total bid to accompany each bid.

The Board reserves the right to accept or reject any or all bids.

Board of Contract & Supply,
Room No. 23, City Hall, Bridgeport, Conn.

Bids received until July 9, 1917.

Concrete-Steel Viaduct

Barberton, Ohio.

Sealed proposals will be received at the office of T. J. Davies, Director of Public Service, Barberton, Ohio, until twelve o'clock noon, Central Time, on Monday, July 9, 1917, for the complete construction of a concrete-steel viaduct known as the Tuscarawas Avenue Viaduct, in accordance with the plans and specifications approved by the Court of Common Pleas of Summit County, Ohio, in cause No. 21,469, City of Barberton, Plaintiff, vs. The Baltimore & Ohio Railroad Company, et al., defendants, which said plans and specifications are now on file in the office of H. W. Alcorn, City Engineer, Barberton, Ohio. Proposals shall be made on the blank forms furnished by the City, and must be accompanied by a satisfactory surety company bond for the amount of the bid, or a certified check for ten thousand dollars ($10,000.00), made payable to the Treasurer of the City of Barberton. They shall be enclosed in an envelope bearing the name and address of the bidder, marked "Proposal for the construction of the Tuscarawas Avenue Viaduct Improvement," and addressed to the Director of Public Service. The bids will be opened and publicly read at the hour and date above given.

Copies of the plans and specifications may be seen at the office of the City Engineer, or at the office of Daniel B. Luten, Consulting Engineer, Indianapolis, Indiana; or copies may be obtained from either of the above on payment of ten dollars ($10.00) which will be returned to those submitting bids upon the day of the letting, provided the plans and specifications are returned in good condition.

Bidders are also invited to submit bids on their own plans. Such plans must be in strict conformity to the specifications on file, and must be completely detailed and must show the number of spans, the length of each, the nature, quality, and size of the materials to be used, the strength of the structure when completed, and whether there is any patent on the proposed plans, or on any, and if any, what part thereof.

Only bids from contractors who are experienced in this class of work and whose financial standing is sound will be considered. The right is reserved to reject any or all bids or to waive irregularities in bids if it is deemed to be to the interest of the City to do so.

T. J. DAVIES,
Director of Public Service.

Bids received until August 2, 1917.

Bridge Construction

Miami, Fla.

Sealed proposals, to be filed with W. B. Moore City Clerk, will be received by the City of Miami, Florida, up to 7:30 p.m., August second, 1917, for the construction of a bridge over the Miami River.

The bridge will have a total length of 265 feet between end piers and will provide a 20-ft. roadway and two sidewalks each 6 ft. wide. It will consist of six piers and 5 steel deck spans with lumber floor, one span being a double leaf bascule span. Payments will be made in cash and monthly estimates will be rendered. To all bids there shall be attached a check of the bidder, certified to by a responsible bank, made payable to W. B. Moore, City Clerk, for an amount of 10 per cent. of the bid, and the bidder, who has a contract awarded to him and who fails promptly and properly to execute said contract and bond shall forfeit said amount, which is to be taken and considered as liquidated damages, but not a penalty for failure of bidder to execute contract and bond. Upon the execution of the contract and bond by the successful bidder, said check will be returned to him. The checks of unsuccessful bidders will be returned to them after the contract and bond of the successful bidder are executed. The contract will be awarded to the lowest responsible and competent bidder, but the City of Miami reserves the right to reject any and all bids and to waive informalities. Plans and specifications are on file in the office of the City Clerk, Miami, Florida, and in the office of Harrington, Howard & Ash, Consulting Engineers, Kansas City, Missouri. Copies of the plans and specifications may be secured from the Consulting Engineers by depositing twenty-five dollars therefor. Such plans and specifications are to be returned upon request, at which time refund of twenty dollars will be made.

W. B. MOORE,
City Clerk.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., June 16, 1917.—SEALED PROPOSALS will be opened in this office at 3 p.m., July 9, 1917, for the construction of the United States Post Office at Glenwood, Iowa. Drawings and specifications may be obtained from the Custodian of the site at Glenwood, Iowa, or at this office, in the discretion of the Acting Supervising Architect. Jas. A. Wetmore, Acting Supervising Architect.

PROPOSALS

Bids received until July 5, 1917.

READVERTISEMENT

Reinforced Concrete Bridges

Lawrence, Mass.

Sealed proposals for the construction of two (2) reinforced concrete bridges together with the grading and paving of approaches necessary to connect the structures with the City streets and the Central Bridge over the Merrimack River in the City of Lawrence, Massachusetts, will be received by the Mayor and City Council at the office of the City Clerk until 11 o'clock A. M., July 5, 1917, at which time and place the proposals will be opened and tabulated.

Copies of the plans and specifications, including form of proposal, may be obtained by Contractors at the office of B. H. Davis, Consulting Engineer, 17 Battery Place, New York City, upon making a deposit of Twenty-five ($25.00) Dollars, which sum will be refunded to all bidders upon the return of the plans and specifications in good order and to all other contractors returning same before bids are received.

A certified check for the sum of $5,000.00 payable to the City of Lawrence must accompany each proposal. Each proposal, accompanied by its certified check payable to the City of Lawrence, must be endorsed "Proposal for the Construction of Canal Bridges and Approaches" and must be delivered to Edward J. Wade, City Clerk, City Hall, Lawrence, Mass. A satisfactory surety company bond for 60% of the estimated contract price will be required of the contractor to whom the work is awarded.

The attention of bidders is directed to the fact that time of completion will be an important factor in the consideration of bids and the contractor to whom the work is awarded will be held strictly to the terms of the contract regarding the diligent prosecution of the work and the time of completion of the same. No proposal will be considered which fixes the date of completion of the bridges at a date later than November 1st, 1917.

Monthly estimates of the value of the work done and materials delivered will be made on or about the 1st of each month and payments amounting to 90% of such estimates will be payable on the 12th of each month. The right is reserved to reject any and all bids.

By order of the Mayor and Council.
EDWARD J. WADE, City Clerk.
B. H. DAVIS, Consulting Engineer.

Bids received until July 2, 1917.

Concrete Reservoir and Water Mains

Waverly, Iowa.

Bids will be received up to 5 o'clock P. M. July 2, 1917, for the construction of a 200,000 gallon reinforced concrete reservoir and 1200 feet 12 inch cast iron water mains with specials. Also for concrete wing walls and concrete apron for dam. A deposit of $5.00 is required for plans and specifications which are on file with the City Clerk.

F. A. LEE, City Clerk
O. P. CHASE, Engineer,
Clinton, Iowa.

SEARCHLIGHT SECTION

Contracts To Be Let

PROPOSALS

Bids received until July 23, 1917.

Sewage Disposal Plant

Wingdale, N. Y.

Sealed proposals for Sewage Disposal Plant at Wingdale Prison, Wingdale, N. Y., will be received by the Commission on New Prisons, Room 615, Hall of Records, New York City, until two o'clock P.M. on Monday, July 23, 1917, when they will be publicly opened and read. Proposals shall be enclosed in an envelope furnished by the State Architect, sealed and addressed, and shall be accompanied by a certified check in the sum of five per cent. (5%) of the amount of proposal. The contractor to whom the award is made will be required to furnish surety company bond in the sum of fifty per cent. (50%) of the amount of contract within thirty (30) days after official notice of award of contract and in accordance with the terms of Specification No. 2782. The right is reserved to reject any or all bids. Drawings and specifications may be consulted at the office of the Commission on New Prisons, Room 615, Hall of Records, New York City, at the New York Office of the Department of Architecture, Room 1224 Woolworth Building, and at the Department of Architecture, Capitol, Albany, N. Y. Drawings and specifications and blank forms of proposals may be obtained at the Department of Architecture, Capitol, Albany, N. Y., upon reasonable notice to and in the discretion of the State Architect, Lewis F. Pilcher, Capitol, Albany, N. Y.

Dated: June 21, 1917.

Bids received until July 6, 1917

Pump House Building

SAVANNA AND YORK DRAINAGE DISTRICT, COUNTY OF CARROLL, STATE OF ILLINOIS

Thomson, Ill., June 15, 1917.

Sealed proposals will be received in the office of Franklin J. Stransky, Attorney of the Savanna and York Drainage District, Savanna, Illinois, until 10:00 o'clock A. M. July 6, 1917, for

(a) The furnishing of all material, machinery and labor for the construction of a Pump House Building and appurtenances.

(b) The furnishing and installation of the pumping machinery, electrical apparatus and auxiliaries.

Alternative bids will be received on an oil engine driven or steam driven plant.

Plans and specifications may be obtained from the Edmund T. Perkins Engineering Company, 1210 First National Bank Building, Chicago, Illinois, and 317-19 Illinois State Bank Building, Quincy, Illinois, and from N. D. French, Secretary, Thomson, Illinois, on deposit of Ten ($10.00) Dollars, which amount will be refunded if both the plans and specifications are returned in good condition within ten days after date of awarding of contract.

The district will exercise their own discretion as to letting the work as a whole, or by section, and reserve the right to reject any and all bids.

N. D. FRENCH, Secretary.

PROPOSALS

Bids received until July 9, 1917.

Marble Wainscoating

Media, Penn.

Sealed proposals will be received at the office of the County Controller, Media, Delaware County, Penn., on Monday, July 9, 1917, at 10 a.m., for marble wainscoating for the main stairway and second story front corridors of the Court House, Media, Penn.

Drawings and specifications will be on file at the Commissioners' office, Media, Penn., or the Architect's office, room 301 Crozer Building, Chester, Penn., or 1133 Broadway, New York City.

A certified check for at least 3% of the amount of the bid must accompany the proposal.

The Commissioners reserve the right to reject any or all bids.

ORION L. DAVIS,
County Controller.

Owing to holiday, Wednesday, July 4, the last form for our issue of July 5 will go to press at 10 a.m. on

TUESDAY

Copy for Want and For Sale announcements should be received on Monday. Proposals received until 10 a.m. Tuesday will be published if there is space available in the last form.

All copy should be sent in as early as possible **every week.** Only a limited amount of space is held open in the pages that go to press last.

PROPOSALS

Bids received until July 12, 1917.

Sewage Pumping Station and Equipment

Bridgeport, Conn.

Sealed proposals will be received at the office of the Paving and Sewer Commission, Room 22 City Hall, Bridgeport, Conn., until 8 P. M. o'clock July 12, 1917, for the construction of the Western Sewage Pumping station, etc., contract No. 1 and for the design, construction, delivery and erection of machinery and equipment for the Western Sewage Pumping Station contract No. 2 at which hour the bids will be publicly opened.

INFORMATION

Pump house circular about 67 ft. diameter and 76 ft. Sump floor to ridge.

Grit chamber about 28 ft. x 108 ft. x 28 ft.

Maximum estimated flow of sewage per 24 hours 30,000,000 gals.

Minimum estimated flow of sewage per 24 hours 10,000,000 gal.

The City has about 260 feet of 48 in. C. I. pipe which the contractor is expected to use in the outfall and which the City will furnish free. The contractor shall give pipe necessary coating.

Plans and specifications can be obtained from Alfred H. Terry, City Eng., City Hall Bridgeport, Conn.

A deposit of $50.00 will be required for one or two complete sets. This will be refunded if plans and specifications are returned marked with sender's name and in good condition by July 19th, 1917. Money will be retained to the amount of $10 for plans and specifications returned in damaged condition. No refund will be made for plans, etc., returned if received after July 19th as above.

THE PAVING AND SEWER COMMISSION,
BERNARD KEATING, Secretary.

Bids received until July 10, 1917.

Laboratory Fittings

SEALED BIDS will be received by the Board of Water Supply, at its offices, twenty-second floor, Municipal Building, Park Row, Centre and Chambers Streets, New York City, until 11 A.M., on Tuesday, July 10, 1917, for Contract 187, for fitting up a chemical and bacteriological laboratory, including the furnishing and installing of fixtures, furniture, piping and lighting, ventilating and drainage systems. The laboratory is located in the lower gate-chamber of Ashokan reservoir, in the Town of Olive, Ulster County, New York.

At the above place and time the bids will be publicly opened and read. Pamphlets containing information for bidders and contract drawings can be obtained at the above address, at the office of the Secretary, by depositing the sum of ten dollars ($10) in cash or its equivalent for each pamphlet. For further particulars apply to the office of the Principal Assistant Engineer at the above address.

CHARLES STRAUSS, President
CHARLES N. CHADWICK,
JOHN F. GALVIN,
Commissioners, Board of Water Supply.
GEORGE FEATHERSTONE, Secretary.

SEARCHLIGHT SECTION

Contracts To Be Let

PROPOSALS

Bids received until July 10, 1917.

Brick Pavement

SEALED BIDS will be received by the Board of Water Supply, at its offices, twenty-second floor, Municipal Building, Park Row, Centre and Chambers Streets, New York City, until 11 A.M., on Tuesday, July 10, 1917, for Contract 184, for placing a vitrified brick pavement in tar mastic in the Kensico aerator. The work is located near the Kensico reservoir, in the Town of Mt. Pleasant, Westchester county, New York.

At the above place and time the bids will be publicly opened and read. Pamphlets containing information for bidders and contract drawings can be obtained at the above address, at the office of the Secretary, by depositing the sum of ten dollars ($10) in cash or its equivalent for each pamphlet. For further particulars apply to the office of the Principal Assistant Engineer at the above address.

CHARLES STRAUSS, President,
CHARLES N. CHADWICK,
JOHN F. GALVIN,
Commissioners, Board of Water Supply.
GEORGE FEATHERSTONE, Secretary.

Bids received until July 10, 1917.

Surfacing Highways

SEALED BIDS will be received by the Board of Water Supply, at its offices, twenty-second floor, Municipal Building, Park Row, Centre and Chambers Streets, New York City, until 11 A. M., on Tuesday, July 10, 1917, for Contract 179, for surfacing with vitrified brick block about 2,000 feet of highways at the Kensico dam, in the Town of North Castle, Westchester County, New York.

At the above place and time the bids will be publicly opened and read. Pamphlets containing information for bidders and contract drawing can be obtained at the above address, at the office of the Secretary, by depositing the sum of ten dollars ($10) in cash or its equivalent for each pamphlet. For further particulars apply to the office of the Principal Assistant Engineer at the above address.

CHARLES STRAUSS, President,
CHARLES N. CHADWICK,
JOHN F. GALVIN,
Commissioners, Board of Water Supply.
GEORGE FEATHERSTONE, Secretary.

Bids received until July 17, 1917.

Shandaken Tunnel

SEALED BIDS will be received by the Board of Water Supply, at its offices, twenty-second floor, Municipal Building, Park Row, Centre and Chambers Streets, New York City, until 11 A.M., on Tuesday, July 17, 1917, for a contract for the construction of the Shandaken tunnel. The tunnel is part of the Schoharie watershed development for the New York City water supply, is 18 miles long, and will carry water from the Schoharie reservoir to Esopus creek. The finished tunnel will be 11 feet 6 inches high by 10 feet 3 inches wide, lined with concrete masonry, and will have 8 shafts.

PROPOSALS

The tunnel has been divided into two portions, to be known as the north and south portions, so that bids may be submitted for either portion or for the entire tunnel.

At the above place and time the bids will be publicly opened and read. Pamphlets containing information for bidders and contract drawings can be obtained at the above address, at the office of the Secretary, by depositing the sum of twenty dollars ($20) in cash or its equivalent for each set. For further particulars apply to the office of the Principal Assistant Engineer at the above address.

CHARLES STRAUSS, President.
CHARLES N. CHADWICK,
JOHN F. GALVIN,
Commissioners, Board of Water Supply.
GEORGE FEATHERSTONE, Secretary.

Bids received until July 3, 1917.

Brick Road Improvement

Lafayette, Ind.

Notice is hereby given that the Board of Commissioners of Tippecanoe county, State of Indiana, at the County Auditor's office, in the City of Lafayette, Indiana, on the third day of July, 1917, up to the hour of ten o'clock a.m., will receive bids for the construction of 2.60 miles of brick road improvement in Fairfield township to be known as the M. P. Sheehan et al. road.

Also 2.02 miles of brick road improvement in Wabash township to be known as the Henry Klinker et al. road, as ordered by said Board to be constructed, and at the said time will let to the lowest responsible bidder, to contract for the construction according to specifications, plans, profile, estimate, etc., now on file in the office of the County Auditor of said county, at Lafayette, Indiana.

Bidders will be required to file with their bids bonds for double the amount of said bids, conditioned according to law at least one of which sureties on such bond must be a resident of said county, or a Surety company doing business in the county, and affidavits denying collusion as the law provides.

The right to reject any and all bids is reserved.

A reasonable time to be hereinafter fixed will be allowed for completing the work.

GEORGE W. BAXTER, Auditor.
E. C. MINTON, Engineer.

PROPOSALS FOR STONE-CONCRETE SUPERSTRUCTURE.—U. S. Engineer Office, Buffalo, N. Y.—Sealed proposals will be received here until 11 A.M., July 10, 1917, and then opened, for constructing stone-concrete superstructure on breakwater, Buffalo Harbor, N. Y. Information on application.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., June 20, 1917.—Sealed proposals will be opened in this office at 3 p.m., August 9, 1917, for the construction of the United States Post Office at Dubois, Pa. Drawings and specifications may be obtained after July 5, 1917, from the Custodian of the site at Dubois, Pa., or at this office, in the discretion of the Supervising Architect. Jas. A. Wetmore, Acting Supervising Architect.

PROPOSALS

Bids received until July 10, 1917.

Highway Construction

Rockville, Md.

Sealed proposals, addressed to the County Commissioners of Montgomery County, Maryland, and endorsed "Proposals for building a section of State Aid highway in Montgomery County," upon or along the Seneca Bridge Road between Darnestown and Seneca Bridge for a distance of 3.50 miles, will be received by the County Commissioners of Montgomery County, at their office, Rockville, Md., until 12 o'clock noon, on the Tenth day of July, 1917, and at that time and place will be publicly opened and read.

All bids must be made upon blank forms to be obtained of the State Roads Commission at its office, 601 Garrett Building, Baltimore, Md., must give the prices proposed both in writing and in figures, and must be signed by the bidder, with his address.

Each bid is to be accompanied by a certified check for Two Hundred Dollars ($200.00), payable to the Treasurer of Montgomery County, said check to be returned to the bidder unless he fails to execute the contract should it be awarded to him.

Plans can be seen and forms of specification and contract may be obtained on cash payment of One Hundred Dollars ($100.00), at the office of the State Roads Commission, Baltimore, Md.

The County Commissioners of Montgomery County reserve the right to reject any and all proposals.

By order of the Board of County Commissioners for Montgomery County, Maryland.

JOHN R. LEWIS, President,
BERRY E. CLARK, Clerk.

Bids received until July 12, 1917.

Brick Pavement

Olean, N. Y.

Sealed proposals will be received by the Commissioners of Public Works of the City of Olean, N. Y., at the office of the Superintendent of Streets in the City Building until 8 o'clock p. m. on the 12th day of July, 1917, for the construction of about 4800 square yards of brick pavement in Ninth Street from Washington Street to Irving Street.

Also, proposals will be received at the same place until 8 o'clock p. m. on the 16th day of July, 1917, for the construction of about 6280 square yards of brick pavement in East State Street from Union Street to the bridge over the P.R.R. tracks.

Plans and specifications may be seen and bid sheets procured at the office of the Superintedent of Streets, City Building, Olean, N. Y.

The right is reserved to reject any or all bids.

Dated June 23, 1917.

GEO. H. LUTHER,
Chairman Commissioners of Public Works.
E. E. ALLEN, Supt. of Streets.

SEARCHLIGHT SECTION

Contracts To Be Let

PROPOSALS

Bids received until July 12, 1917.

Library Building

DEPARTMENT OF PUBLIC WORKS, THE BOARD OF TRUSTEES, THE FREE LIBRARY OF PHILADELPHIA.

Philadelphia, Pa.

Sealed proposals will be received in Room 216, City Hall, addressed to the Director, Department of Public Works and the Board of Trustees, The Free Library of Philadelphia, until 12 o'clock noon on Thursday, July 12th, 1917, and opened at that time in Room 202, City Hall, for:

"The erection of the building for the Free Library of Philadelphia, to be located on a plot of ground bounded by Vine, 19th, Wood and 20th Streets in the City of Philadelphia."

"The amount of money available for the erection of this building is approximately $2,720,000."

Bids for this work will be received under three separate proposals as follows:

Proposal for Contract No. 1: For the entire work as covered by the plans and specifications, except the plumbing work, heating and ventilating work and electrical work. Attention is called to Item 1-a in the proposal, providing for an allowance or credit to the City of Philadelphia, to be deducted from the sum named in Item No. 1 provided it way be legally permissible to have the stone cut at any place, so that the said cutting be not limited to the City of Philadelphia; in which case the cutting of the stone may be done either within or beyond the boundaries of said city as the contractor may elect.

Proposal for Contract No. 2: Plumbing and drainage.

Proposal for Contract No. 4: For the electrical equipment work.

A certificate from the Law Department that a proposal bond has been filed must accompany each bid.

Bidders must fully acquaint themselves with all the legal and departmental regulations applying to contract work in the City of Philadelphia; see reference to various such regulations in the specifications.

Plans will be forwarded for various classes of work upon deposit of proper amount with the Architect. Copies of plans, drawings, and specifications for the above work can be secured from Horace Trumbauer, Architect, 1406 Land Title Bldg., Philadelphia, to whom all inquiries for additional information should be addressed.

THE BOARD OF TRUSTEES, THE FREE LIBRARY OF PHILADELPHIA,
JOHN ASHHURST, Librarian.
GEORGE E. DATESMAN, Director,
Department of Public Works.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., June 14, 1917.—Sealed proposals will be opened in this office at 3 p. m., July 26, 1917, for the construction of the United States post office at Gallatin, Tenn. Drawing and specifications may be obtained from the custodian of the site at Gallatin, Tenn., or at this office, in the discretion of the Supervising Architect. Jas. A. Wetmore, Acting Supervising Architect.

PROPOSALS

Bids received until July 6, 1917.

Laundry Extension

Central Islip, N. Y.

Sealed proposals for Construction Work—Extension to Laundry and Equipment, at the Central Islip State Hospital, Central Islip, N. Y., will be received by the State Hospital Commission, Capitol, Albany, N. Y., until three o'clock P. M., on Friday, July 6, 1917, when they will be publicly opened and read. Proposals shall be inclosed in an envelope furnished by the State Architect, sealed and addressed, and shall be accompanied by a certified check in the sum of five per cent. (5%) of the amount of proposal. The contractor to whom the award is made will be required to furnish surety company bond in the sum of fifty per cent. (50%) of the amount of contract within thirty (30) days after official notice of award of contract and in accordance with the terms of Specification No. 2231, including Addenda dated May 3, 1917. The right is reserved to reject any or all bids. Drawings and specifications may be consulted at the Central Islip State Hospital, Central Islip, N. Y., at the New York Office of the Department of Architecture, Room 1224 Woolworth Building, and at the Department of Architecture, Capitol, Albany, N. Y. Drawings and specifications and blank forms of proposal may be obtained at the Department of Architecture, Capitol, Albany, N. Y., upon reasonable notice to and in the discretion of the State Architect, Lewis F. Pilcher, Capitol, Albany, N. Y.

E. S. ELLWOOD,
Secretary, State Hospital Commission.
Dated: June 11, 1917.

Bids received until July 10, 1917.

Building Removal and Erection

DEPARTMENT OF CITY TRANSIT,
754 BOURSE BUILDING
Philadelphia, June 18, 1917.

Sealed proposals, properly indorsed and addressed to the undersigned at the office above mentioned, will be received until 12 o'clock noon, on Tuesday, July 10, 1917, and opened immediately thereafter for the following work appurtenant to the Frankford Elevated Railway and authorized by Ordinances of Councils approved July 2, 1915, July 20, 1916, and March 6, 1917:

CONTRACT NO. 616—Removal of buildings at 3166 Kensington Avenue and at 3201-3-5 Kensington Avenue and erection of station buildings on these sites.

CONTRACT NO. 617—Removal of building at 3506 "K" Street and erection of station buildings on this site and at the southeast corner of Tioga Street and Kensington Avenue.

CONTRACT NO. 618—Erection of station buildings at the northwest and southeast corners of Torresdale and Kensington Avenues.

CONTRACT NO. 619—Removal of buildings at 4270-72 Frankford Avenue and at 4269-71 Frankford Avenue and erection of station buildings on these sites.

CONTRACT NO. 620—Removal of buildings at 4604 Frankford Avenue and at 4679-81 Frankford Avenue and erection of station buildings on these sites.

CONTRACT NO. 621—Alternate proposal, grouping bids for Contracts Nos. 616 to 620, inclusive.

CONTRACT NO. 622—Plumbing installations for station buildings.

CONTRACT NO. 623—Electrical installations for station buildings.

Plans and specifications can be seen at Room 748, Bourse Building, and copies of same, with blank forms for proposals, will be supplied to intending bidders upon deposit of $10 (cash or certified check) for each set of plans. Deposits will be refunded upon return of plans.

Bidders must be skilled and regularly engaged in the class of work bid for.

No bid will be considered unless accompanied by a certificate from the City Solicitor that a proposal bond in the sum of five hundred dollars ($500) has been filed, in accordance with the provisions of an ordinance approved May 25, 1860.

The Director reserves the right to reject any or all bids as he may deem best for the interest of the City of Philadelphia.

WM. S. TWINING, Director.

Bids received until July 6, 1917.

Laundry Building

West Haverstraw, N. Y.

Sealed proposals for Construction Work for Laundry Building at the New York State Hospital for the Care of Crippled and Deformed Children, West Haverstraw, N. Y., will be received by Mr. George Blagden, President, Board of Managers, New York State Hospital for the Care of Crippled and Deformed Children, West Haverstraw, N. Y., until three o'clock P.M., on Friday, July 6, 1917, when they will be publicly opened and read. Proposals shall be inclosed in an envelope furnished by the State Architect, sealed and addressed, and shall be accompanied by a certified check in the sum of five per cent. (5%) of the amount of proposal. The contractor to whom the award is made will be required to furnish surety company bond in the sum of fifty per cent. (50%) of the amount of contract within thirty (30) days after official notice of award of contract and in accordance with the terms of Specification No. 2651. The right is reserved to reject any or all bids. Drawings and specifications may be consulted at the New York State Hospital for the Care of Crippled and Deformed Children, West Haverstraw, N. Y., at the New York Office of the Department of Architecture, Room 1224 Woolworth Building, and at the Department of Architecture, Capitol, Albany, N. Y. Drawings and specifications and blank forms of proposal may be obtained at the Department of Architecture, Capitol, Albany, N. Y., upon reasonable notice to and in the discretion of the State Architect, Lewis F. Pilcher, Capitol, Albany, N. Y.

Dated: June 12, 1917.

U. S. ENGINEER OFFICE, 1st District, Cincinnati, O.—Sealed proposals for furnishing and delivering about 7,200 barrels of American Portland Cement for Dam No. 39, Ohio River, will be received here until 2 p.m., July 23, 1917, and then opened. Information on application.

SEARCHLIGHT SECTION

Contracts To Be Let

PROPOSALS

Bids received until July 6, 1917.

Pavement and Storm Water Sewers

St. Johnsville, N. Y.

Sealed proposals for the construction of about 12,000 square yards of bituminous pavement on concrete foundation and about 2000 feet of 18 and 20 inch storm water sewers on North Division and Centre streets, in the village of St. Johnsville, Montgomery county, New York, will be received by the Board of Trustees of the Village of St. Johnsville, N. Y., at the office of the Clerk of said Village, until four o'clock p. m., of July 6th, 1917.

Plans and profiles may be seen at the office of the clerk of the village of St. Johnsville, and plans and specifications may be obtained from the Engineer on deposit of $10.00, which will be returned on the return of the plans in good condition.

All bids must be accompanied by cash or a certified check, payable to the Treasurer of the Village of St. Johnsville, N. Y., for the amount of Four Thousand Dollars ($4,000.00). The above checks will be returned to the bidders immediately after the award of the contract, except the check of the successful bidder, which will be retained until the contract is executed and a bond satisfactory to the Board of Trustees of said village furnished having as a surety a surety company authorized to do business in the state of New York.

Bids will be received for the whole work only.

The Board of Trustees hereby reserve and have the right to accept or reject any proposal, to contract with other than the lowest bidder, or to reject all proposals and advertise again, as in its judgment may be for the best interests of the Village.

Dated June 18, 1917.

JAMES R. FLEEMAN, President.
EDWARD EVERETT,
DOUGLAS S. ACKERMAN, Trustees.
WILLARD L. BELLINGER,
FRED J. WALTAMATH.
L. G. WALRATH, Clerk.

MORRELL VROOMAN, Engineer,
10 N. Main Street, Gloversville, N. Y.

Bids received until July 9, 1917.

Concrete Arch Bridge

Camden, N. J.

Sealed proposals are invited for the erection of a three span concrete arch bridge 219 feet long, and 50 feet wide, and the approaches over Newton Creek, on Champion Road, Camden Co., N. J. All in accordance with plans and specifications which are on file with Fred. W. George, Clerk, at the Court House, Camden, N. J. or he will mail the same to any address on receipt of $1.00.

Bids will be received, immediately opened and publicly read at the Court House, Camden, N. J., on Monday, July 9th, 1917, at 10.30 A. M.

Dated June 25, 1917.

FRED W. GERCKE, Chairman.
J. J. ALBERTSON, County Engineer.

PROPOSALS

Bids received until July 12, 1917.

Submerged Outfall Pipe, Channel and Connections at the Easterly Sewage Treatment Works

Cleveland, Ohio.

Sealed proposals will be received at the office of the Commissioner of Purchases and Supplies, Room No. 219 City Hall, until 12 o'clock noon (Eastern time), July 12, 1917, for the construction of a concrete outfall channel approximately 1200 feet in length supported on piling, a submerged steel or concrete outfall pipe line approximately 3000 feet long and connections.

Copies of plans and specifications and blank proposals can be obtained at the office of the Commisisoner of Engineering, Room No. 618 City Hall, after June 18, 1917, upon the deposit of Ten ($10.00) Dollars, the same to be refunded upon the return of the plans in good condition, or if a bid is submitted.

The proposal must contain the full name of the party or parties making the same and all persons interested therein and must be accompanied by a proposal bond signed by a surety company authorized to do business in the State of Ohio or by a certified check for Ten Thousand ($10,000) Dollars payable to the City of Cleveland on a solvent bank, as a surety that if the bid be accepted a contract will be entered into and the performance of it properly secured.

No proposal will be entertained unless made on the blanks furnished by the Commissioner of Engineering and delivered at the office of the Commissioner of Purchases and Supplies, Room No. 219 City Hall, previous to 12 o'clock M. (Eastern time) on the day specified.

The City reserves the right to reject any or all bids.

E. SHATTUCK,
Commissioner of Purchases and Supplies.

Bids received until July 18, 1917.

Ditch Construction

Glenwood, Ia.

Contractors are hereby advised that sealed bids will be received by the Auditor of Mills County, Ia., up to 1.30 P.M. Wednesday, July 18, 1917, for construction of Silver Creek Ditch No. One in said county. This ditch is 44,000 feet long, with a bottom width of sixteen feet and one to one bank slopes, average depth of cut twelve feet, berms ten feet wide must be left. The estimated amount of pay dirt is 547,000 cubic yards. Construction must be commenced on or before November 1, 1917, and must be completed on or before December 1, 1918.

Payment is in Drainage warrants redeemable in cash.

The nearest railroad station to the head of the ditch is five miles. For maps, profiles and specifications or bidding blanks address the undersigned, or Seth Dean Construction Engineer, Glenwood, Ia.

R. E. HUMPHREY,
Auditor of Mills County,
Glenwood, Ia.

PROPOSALS

Bids received until July 18, 1917.

Road Resurfacing

Belvidere, N. J.

Sealed bids will be received by the Board of Chosen Freeholders of the County of Warren, State of New Jersey, for the re-surfacing of 5.527 miles of road with macadam with bituminous dressing.

The roads are known as the Blairstown and the Blairstown-Columbia road Sec. No. 1 and are continuous.

Bids will be received at the Court House at Belvidere, N. J., on

WEDNESDAY, JULY 18, 1917,
at 10.30 a. m.

Bids must be accompanied by cash or certified check in the amount of one thousand dollars ($1000.00) made payable to H. O. Carhart, County Collector.

Specifications are on file and blank proposals may be obtained at the office of H. W. Vetter, County Engineer, Belvidere, N. J., and at the office of the State Department of Roads, Trenton, N. J.

Samples of approved materials are on file with the State Road Department and with the County Engineer, and will be shown and explained to prospective bidders on request.

The right is reserved to reject any or all bids.

By order of the Board of Chosen Freeholders of the County of Warren.

MORRIS S. FAUST,
Clerk.

Bids received until July 12, 1917.

Deep Well Pump and Motor

Cuba City, Wis.

Sealed proposals will be received at the office of the Village Clerk, Cuba City, Wisconsin, at eight (8) o'clock P. M. on the 12th day of July, 1917, for drilling a deep well and installing a new pump and motor, consisting of the following approximate quantities:

250 lin.ft.—12 in. well cased complete.
500 lin.ft.—10 in. hole.
Deep well pump and pump head in place.
Motor in place.

Payment to be made in cash. Certified check on Cuba City bank for $500. Plans and specifications and forms on file with the Village Clerk or Engineer.

WALTER BREWER,
Village Clerk.

J. G. Thorne & Company, Engineer,
317 Howes Block,
Clinton, Iowa.

PROPOSALS FOR the Purchase of one Pipe Line suction Dredge offered for sale by The Panama Canal.—Sealed Proposals will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10: 30 a.m., Aug. 20, 1917, at which time they will be opened in public for purchasing the above-mentioned Dredge. Blanks and information relating to this Circular (No. 1151) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City; Audubon Building, New Orleans, La.; and Fort Mason, San Francisco, Calif.; also from the United States Engineer Offices in the principal cities throughout the United States.—Earl L. Brown, Lieut.-Col., Corps of Engineers, U. S. A., General Purchasing Officer.

SEARCHLIGHT SECTION

Contracts To Be Let

PROPOSALS

Bids received until July 11, 1917.

Road Improvement

Mt. Holly, N. J.

Notice is hereby given that sealed bids will be received by the Board of Chosen Freeholders of Burlington County, N. J., for the improvement of the Jobstown Pike in the Townships of Northampton, Easthampton and Springfield in the County of Burlington with a sheet asphalt surface upon a present macadam foundation; estimated amount of surface pavement required is 31,896 square yards, and opened and read in public at the Court House, Mt. Holly, N. J., on July 11, 1917, at 11.30 A. M.

Drawings, specifications and forms of bid, contract and bond for the proposed work, prepared by James Logan, County Engineer, and approved by the State Highway Commission have been filed in the office of the said engineer at 11 Main street, Mt. Holly, N. J., and of said Commission at the State House, Trenton, N. J., and may be inspected by prospective bidders during business hours. Bidders will be furnished with a copy of the specifications and blue prints of the drawings by the engineer on proper notice and payment of cost of preparation. Bids must be made on the standard proposal forms in the manner designated therein and required in the specifications, must be enclosed in sealed envelopes, bearing the name and address of bidder on the outside, addressed to the Clerk of the Board of Chosen Freeholders and must be accompanied by a certified check or cash for not less than $1000.00 and be delivered at the place and on the hour above named. The standard proposal form is attached to the specifications, copies of which will be furnished on application to engineer.

By order of the Board.

HARRY HAWKINS, JR., Clerk.

Bids received until July 5, 1917.

Street Improvement

Tarrytown, N. Y.

Sealed proposals will be received by the Board of Trustees of the Village of Tarrytown, at the Corporation Rooms on Main Street, until 8 P. M. on Thursday, July 5th, 1917, for paving and otherwise improving Broadway in the Village of Tarrytown, a distance of Twelve thousand six hundred (12,600) feet involving about 53,629 square yards of pavement of which 9,896 square yards may be vitrified brick pavement and the remainder of approximately 43,733 square yards may be an asphaltic road surface on a concrete foundation or a concrete road surface as may be determined by the Village Board. All work to be done in strict accordance with the plans and specifications adopted by the Board of Trustees and on file with the Clerk of said Village.

The work to be done under the aforesaid specifications may be done under two contracts or may be combined into one contract as may be determined by said Board of Trustees.

Bids must be in writing, signed by the bidder and upon the blank form attached to and forming part of the specifications. Each bid must be accompanied by the sum of Five thousand dollars ($5000.00) in cash or certified check made payable to the Treasurer of the Village of Tarrytown, to be forfeited to the Village of Tarrytown as liquidated damages in case of failure on the part of the bidder to furnish satisfactory bonds and to enter into a contract if the work is awarded to him. Deposits of unsuccessful bidders will be returned as soon as the contract is awarded and the deposit of the successful bidder will be returned when the contract is signed and approved.

Contractors desiring to bid only on the asphaltic surface will be required to furnish a deposit of Two thousand five hundred dollars ($2,500).

No bids will be received after the time set. Plans may be inspected at the office of the Village Clerk or at the office of the Wulff Engineering Company, National Bank Building, Tarrytown, New York. Specifications and form of proposal may be obtained from the Village Clerk.

The Board of Trustees reserves the right to reject any or all proposals, or to accept whatever proposal may be, in its judgment, for the best interests of the Village.

Tarrytown, N. Y., June 19th, 1917.

J. WYCKOFF COLE, Village Clerk.

Bids received until July 11, 1917.

Road Improvement

Mt. Holly, N. J.

Notice is hereby given that sealed bids will be received by The Board of Chosen Freeholders of Burlington County, N. J., for the improvement of the Pemberton-Lewistown road in the Township of Pemberton in the County of Burlington with a concrete surface upon the present road bed, estimated amount of surface pavement required is 15,840 square yards, and opened and read in public at the Court House, Mt. Holly, N. J., on July 11, 1917, at 11.30 A. M.

"Drawings, specifications and forms of bid, contract and bond for the proposed work, prepared by James Logan, Burlington County, Engineer, and approved by the State Highway Commission have been filed in the office of the said engineer at No. 11 Main Street, Mt. Holly, N. J., of said Commission at the State House, Trenton, N. J., and may be inspected by prospective bidders during business hours. Bidders will be furnished with a copy of the specifications and blue prints of the drawings by the engineer on proper notice and payment of cost of preparation. Bids must be made on the standard proposal forms in the manner designated therein and required by the specifications, must be enclosed in sealed envelopes, bearing the name and address of bidder on the outside, addressed to the Clerk of the Board of Chosen Freeholders and must be accompanied by a certified check or cash for not less than $1000.00 and be delivered at the place and on the hour above named. The standard proposal form is attached to the specifications, copies of which will be furnished on application to engineer.

By order of the board.

HARRY HAWKINS, JR., Clerk.

U. S. ENGINEER OFFICE, Old Federal Building, Wilmington, Del.—Sealed proposals for dredging Toms River and Abascon Creek, N. J., will be received here until 11 A. M., July 5, 1917, and then opened. Further information on application.

Bids received until July 11, 1917.

Road Improvement

Mt. Holly, N. J.

Notice is hereby given that sealed bids will be received by the Board of Chosen Freeholders of Burlington County, N. J., for the improvement of Moorestown-Camden Pike in the Township of Chester, in the County of Burlington with a sheet asphalt surface upon a concrete foundation; estimated amount of surface pavement required is 31,091 square yards, of foundation 28,420 square yards, and opened and read in public at the Court House, Mt. Holly, N. J., on Wednesday, July 11th, 1917, at 12.15 P.M.

Drawings, specifications and forms of bid, contract and bond for the proposed work, prepared by James Logan, County Engineer, and approved by the State Commissioner at the State House, Trenton, N. J., and may be inspected by prospective bidders during business hours. Bidders will be furnished with a copy of the specifications and blue prints of the drawing by the engineer on proper notice and payment of cost of preparation. Bids must be made on the standard proposal forms in the manner designated therein and required by the specifications, must be enclosed in sealed envelopes, bearing the name and address of bidder on the outside, addressed to the Clerk of the Board of Chosen Freeholders and must be accompanied by a certified check or cash for not less than $1000.00 and be delivered at the place and on the hour above named. The standard proposal form is attached to the specifications, copies of which will be furnished on application to engineer.

By order of the Board.

HARRY HAWKINS, JR., Clerk.

PROPOSALS FOR LEVEE WORK.—Office of Third Mississippi River District, P. O. Box 404, Vicksburg, Miss.—Sealed proposals will be received here until 11 o'clock a.m., July 11, 1917, and then publicly opened, for constructing about 1,265,000 cubic yards of levee work. Information on application.

U. S. ENGINEER OFFICE, Room 305 Southern Building, Washington, D. C.—Sealed proposals for furnishing and delivering at foot of 35th Street, Washington, D. C., 15,000 barrels, more or less, of Portland cement will be received here until 12 M., July 10, 1917, and then opened. Information on application.

UNITED STATES ENGINEER OFFICE, Room 802, Army Building, 39 Whitehall Street, New York City.—Sealed proposals for dredging and removal of rock and boulders in Staten Island Sound, N. Y. and N. J., will be received here until 10 a.m., July 5, 1917, and then opened. Information on application.

PROPOSALS FOR ELEVATORS AND CONVEYORS, CONCRETE MIXERS, ETC.—Mississippi River Commission, U. S. Engineer Office, Customhouse, Memphis, Tenn.—Sealed proposals for furnishing one Troughing Belt Conveyor; one Centrifugal Discharge Belt Elevator, complete with drive engine; one Concrete Mixer, Bucket and Distributing Boom complete with drive engine and boiler; one Steam Capstan, and one Cement Sack Elevator complete, will be received at this office until 11 a.m., July 2, 1917, and then publicly opened. Information on application.

SEARCHLIGHT SECTION

Contracts To Be Let

PROPOSALS

Bids received until July 16, 1917.

Dredging Work

Hanna, Ill.

Sealed proposals will be received by the Commissioners of the Lower Green River Special Drainage District in the County of Henry and State of Illinois, until the 16th day of July, 1917, and until 10 o'clock A. M. of said day at which time the bids will be publicly opened and considered at the residence of Benjamin Snodgrass, located on the Northwest Quarter of Section Nine in the Town of Hanna, Henry County, Illinois. The work for which bids are desired consists of dredging one main ditch, one lateral and making some fills, requiring the removal of approximately 489,723 cu. yds. of material. Plans and specifications for the work may be seen at the residence of either of the Commissioners or at the office of the engineers or attorney and from whom the same may be procured. All bids should be upon the form provided for that purpose and should be mailed or delivered to one of the Commissioners. The right is reserved to accept or reject any and all bids.

June 16th, 1917.

BENJAMIN SNODGRASS,
R.R. No. 2, Geneseo, Ill.
ARTHUR DAVIS,
R.R. No. 2, Geneseo, Ill.
CLARENCE PAYNE,
R.R. No. 2, Geneseo, Ill.
Commissioners in and for said Drainage District.

H. E. REEVES, Engineer,
U. S. Engineer's Office,
Leclaire, Iowa.
C. C. MARTIN, Engineer,
Geneseo, Illinois.
HENRY WATERMAN, Attorney,
Geneseo, Illinois.

Bids received until July 16, 1917.

Material and Labor for Sidewalk Construction

Media, Penn.

Sealed proposals will be received at the office of the County Controller at Media, Delaware County, Pa., on Monday, July 16th, 1917, at 10 A. M. for furnishing material and labor necessary to place concrete sidewalks on Seventh Street bridge, Chester, Pa.

Plans and specifications may be obtained by applying at the County Commissioners' office, Media, Pa.

A certified check not less than Ten per cent. (10%) of the amount must accompany the proposal.

The Commissioners reserve the right to reject any or all proposals.

ORION L. DAVIS,
County Controller.

Builders of Wooden Floating Docks

Tenders are solicited for floating docks of 350 feet length. Full specifications on reply to "Quick delivery." CL93—Eng. News-Record.

PROPOSALS

Bids received until July 12, 1917.

Refrigeration Equipment

Thiells, N. Y.

Sealed proposals for Refrigeration Equipment for Storehouse, Bakery, Refrigerating Plant and Cold Storage Building at Letchworth Village, Thiells, N. Y., will be received by Mr. Frank A. Vanderlip, President of the Board of Managers of Letchworth Village, No. 7 Wall Street, New York City, until twelve o'clock noon, on Thursday, July 12, 1917, when they will be publicly opened and read. Proposals shall be inclosed in an envelope furnished by the State Architect, sealed and addressed, and shall be accompanied by a certified check in the sum of five per cent. (5%) of the amount of proposal. The contractor to whom the award is made will be required to furnish surety company bond in the sum of fifty per cent. (50%) of the amount of contract within thirty (30) days after official notice of award of contract and in accordance with the terms of Specification No. 2514. The right is reserved to reject any or all bids. Drawings and specifications may be consulted at Letchworth Village, Thiells, N. Y., at the office of the Board of Managers, No. 7 Wall Street, New York City, at the New York Office of the Department of Architecture, Room 1224 Woolworth Building, and at the Department of Architecture, Capitol, Albany, N. Y. Drawings and specifications and blank forms of proposal may be obtained at the Department of Architecture, Capitol, Albany, N. Y., upon reasonable notice to and in the discretion of the State Architect, Lewis F. Pilcher, Capitol, Albany, N. Y.

Dated: June 11, 1917.

Bids received until July 17, 1917.

Concrete Dam

New Brunswick, N. J.

Sealed proposals will be received by the Board of Commissioners of the City of New Brunswick at the Commissioners' Council Chambers, District Court Room, Court House Building, Paterson Street, New Brunswick, N. J., on Tuesday, July 17th, 1917, at 10 A. M., for the erection and construction of a concrete arched dam crossing Weston's Mill Pond near the Pumping Station, in the City of New Brunswick, N. J.

All of said bids shall be in accordance with the plans and specifications on file in the office of Asher Atkinson, City Engineer, City Hall Building, 78 Bayard Street, New Brunswick, N. J., and from whom copies of said plans and specifications may be obtained, upon the payment of Ten Dollars ($10.00), which said sum of Ten dollars ($10.00) is to be refunded upon the return of said plans and specifications to the City Engineer, in good condition.

Each bid must be accompanied by a certified check for One thousand dollars ($1,000.00), made payable unconditionally to the Treasurer of the City of New Brunswick, which check must be presented with the bid as a guarantee that the bidder will within five days after receiving the award

PROPOSALS

enter into contract for the faithful performance of the work, and will also provide a Surety Company bond to be approved by the City Attorney, in the amount of one-half of the amount of the bid, for the faithful performance of the work.

The Commissioners reserve the right to reject any and all bids.

EDWARD F. FARRINGTON,
Director Department Public Affairs.
ASHER ATKINSON, City Engineer.
Attest:
EUGENE J. McLAUGHLIN, City Clerk.

Bids received until July 19, 1917.

Earth Excavation

Greenville, Miss.

Open bids for the construction of about 4,700,000 cubic yards of earth excavation for drainage channels (Contracts Numbers 1 to 10 inclusive) according to the plans and specifications of the engineers, will be received at Greenville, Mississippi, July 19, 1917, at 10 a.m. by the Board of Commissioners of Black Bayou Drainage District, Washington County, Mississippi. Any sealed bids received will be opened and considered after the open bidding is concluded.

Bids will be accepted for the work as a whole, or for any contract or combination of contracts into which the work has been divided.

The right is reserved to reject any or all bids, and to waive any informality in the bids received.

No bid will be considered unless accompanied by a satisfactory corporate proposal bond, following the form furnished by the District, or by a certified check for not less than five per cent. of the amount of the bid, but in no case need a certified check exceed $10,000.

The bidder, or bidders, to whom awards are made, will be required to enter into written contracts with the Commissioners of the District, with good and approved security for the full amount of the contract within 20 days after being notified of the acceptance of his proposal.

Payments for the work will be made in cash.

BOARD OF COMMISSIONERS,
By L. C. HAYS, President.
MORGAN ENGINEERING COMPANY,
Engineers.

Bids received until July 2, 1917.

Dredging

OFFICE OF BOARD OF COMMERCE AND NAVIGATION STATE HOUSE
Trenton, N. J., June 12, 1917.

Sealed proposals for dredging a section of the proposed Inland Waterway connecting Barnegat Bay with the Manasquan River will be received at this office at 12 o'clock noon, July 2, 1917, and then publicly opened. About $50,000.00 is available for this work. The right is reserved to reject any or all bids, or to waive informality in any bid if it may appear to the advantage of the State so to do. Further information on application. JOHN C. PAYNE,
Chief Engineer.

SEARCHLIGHT SECTION

Contracts To Be Let

PROPOSALS

Bids received until July 13, 1917.

Fire Towers

Trenton, N. J.

Sealed proposals for the erection of "Certain Fire Towers, Fire Escapes, etc., New Jersey State Hospital, Trenton, New Jersey," will be received at the Hospital in Trenton, New Jersey, at 2 P.M. on Friday the 13th day of July, 1917, at which time they will be publicly opened and read.

Each proposal must be accompanied by certified check drawn to the bidder's order and properly endorsed for an amount equal to at least five per cent. of the amount of the bid.

The right to reject any and all bids is reserved.

After contract is awarded, the successful bidder will be required to furnish a satisfactory surety bond in one-half the amount of the contract price, to guarantee the fulfillment of condition of his contract.

Plans and specifications may be obtained upon application to the Department of Architecture.

FRANCIS H. BENT,
State Architect.

Bids received until July 10, 1917.

Trap-Rock, Sand, Cement, Etc.

Rahway, N. J.

Sealed bids will be received until 8 p.m., July 10, 1917, by the Common Council of the City of Rahway, for the following approximate amount of material, namely:—

650 tons 1½ inch gravel or crushed trap rock

325 tons sand

700 Barrels Portland cement

1400 Lin.ft. expansion joint filler 6 in. by ½ in.

700 Lin.ft. expansion joint filler 7 in. by ½ in.

Bids will be received separately upon each item all f.o.b. Rahway, N. J.

CHARLES H. LAMPERT, City Clerk.

Bids received until July 11, 1917.

Sewers, Etc.

La Crosse, Wis.

The undersigned, Board of Public Works of the City of La Crosse, will receive sealed proposals at its offices in the City Hall in said city until two o'clock in the afternoon of the 11th day of July, 1917, for providing, furnishing and performing all necessary work, labor and material to fully complete in all and every detail the following public work and improvement, to wit:

730.1 lineal feet of concrete or brick sewer, 40 inches by 60 inches.

1475.3 lineal feet of concrete or brick sewer, 36 inches by 54 inches.

798.8 lineal feet of vitrified pipe sewer, 24 inches diameter.

1455.4 lineal feet of vitrified pipe sewer, 20 inches diameter.

1407.3 lineal feet of vitrified pipe sewer, 18 inches diameter.

2138.1 lineal feet of vitrified pipe sewer, 15 inches diameter.

7954.1 lineal feet of vitrified pipe sewer, 12 inches diameter.

5491.2 lineal feet of vitrified pipe sewer, 10 inches diameter.

50 manholes.

94 catchbasins.

619 house connections.

All proposals shall be sealed and directed to this board and shall be accompanied with a bond to the City of La Crosse in the penal sum of thirty (30) per cent. of the bid or a certified check of fifteen (15) per cent. thereof. Work is to commence forthwith and to be fully completed on or before the 1st day of December, 1918.

The right is reserved to reject any and all bids.

Dated this 19th day of June, A. D. 1917.

BOARD OF PUBLIC WORKS,
By GEORGE P. BRADISH,
W. J. FRIES,
J. E. HIGBEE,
Commissioners.

Audited June 19th, 1917.

W. J. FRIES, Comptroller.

Bids received until July 3, 1917.

Bridge Improvement

Johnstown, Pa.

Sealed proposals for Repainting, Repairing, Remodeling and Reflooring the Portage Street Bridge will be received by the Superintendent of Streets and Public Improvements at his office in the City Hall, Johnstown, Pa., up until 12 o'clock noon, Tuesday, July 3, 1917, and publicly opened at the regular session of the City Council in their Chamber at 2 o'clock P. M. of the same date.

Proposals shall be made out on blank forms as attached to the specifications, and must be accompanied by such surety as is set forth therein.

Plans and specifications may be seen daily at the office of the City Engineer of the City of Johnstown, Pa. Copies of the same may be had by making application to the Farris Engineering Company, Empire Building, Pittsburgh, Pa., accompanied with a deposit of $25.00, which amount will be refunded if plans and specifications are returned in good condition on or before the date of the letting.

The right is reserved to reject any or all bids and to award the work as may be deemed to the best interests of the City of Johnstown. THOMAS J. HARRIS,
Superintendent of Streets and Public Improvements.

June 21, 1917.

OFFICE OF THE COMMISSIONERS, District of Columbia, June 25, 1917.—Sealed proposals will be received at the office of the Secretary of the Board of Commissioners, Room 509, District Building, until 2 o'clock, P. M., July 9, 1917, for furnishing and delivering one 30 K. W. Motor Generator, at the New Central High School Building, at 13th and Clifton Streets, N. W. Blank forms of proposal, plans, specifications and all necessary information may be obtained from the Chief Clerk, Engineer Department, Room 427, District Building, Washington, D. C. A deposit of five dollars will be required from bidders to insure the return of the plans and specifications. Oliver P. Newman, Louis Brownlow, C. W. Kutz, Commissioners, D. C.

PROPOSALS

Bids received until July 10, 1917.

Setting and Resetting Curb

Rahway, N. J.

Sealed proposals will be received by the Common Council of the City of Rahway, N. J., up to eight o'clock P. M., Tuesday, July 10, 1917, at the City Hall, for setting and resetting of curb on both sides of Westfield Road in concrete from St. George's avenue to Madison avenue.

The following is the approximate amount of work to be done.

Furnish and set 710 lineal feet of 4 in. x 18 in. new blue stone curb in concrete.

Reset 2348 lineal feet of old curb in concrete.

Furnish 102 lineal feet of ¼ in. x 18 in. iron plates of various lengths and set in concrete.

Plans and specifications may be examined at the office of the City Engineer.

A certified check for the sum of $100 must accompany each bid, payable to "The Mayor and Common Council of the City of Rahway."

The Common Council reserves the right to reject any or all bids.

Rahway, N. J., July 27, 1917.

FRANKLIN MARSH, City Engineer.

Bids received until July 12, 1917.

Construction, Heating, Plumbing, Etc.

Ward's Island, N. Y.

Sealed Proposals for Construction, Heating, Plumbing and Drainage, and Electric Work for Building and Kitchen for Disturbed Patients (Additional Accommodations for Disturbed Patients) at the Manhattan State Hospital, Ward's Island, N. Y., will be received by the State Hospital Commission, Capitol, Albany, N. Y., until three o'clock P.M., on Thursday, July 12, 1917, when they will be publicly opened and read. Proposals shall be inclosed in an envelope furnished by the State Architect, sealed and addressed, and shall be accompanied by a certified check in the sum of five per cent. (5%) of the amount of proposal. The contractors to whom the awards are made will be required to furnish surety company bond in the sum of fifty per cent. (50%) of the amount of contract within thirty (30) days after official notice of award of contract and in accordance with the terms of Specifications Nos. 2712, 2725, 2726 and 2727. The right is reserved to reject any or all bids. Drawings and specifications may be consulted at the Manhattan State Hospital, Ward's Island, N. Y., at the New York Office of the Department of Architecture, Room 1224 Woolworth Building, and at the Department of Architecture, Capitol, Albany, N. Y. Drawings and specifications and blank forms of proposal may be obtained at the Department of Architecture, Capitol, Albany, N. Y., upon reasonable notice to and in the discretion of the State Architect, Lewis F. Pilcher, Capitol, Albany, N. Y. E. S. ELLWOOD,

Secretary, State Hospital Commission.

Dated: June 13, 1917.

SEARCHLIGHT SECTION

Contracts To Be Let

PROPOSALS

Bids received until July 10, 1917.

Mixed Pressure Steam Turbine and Centrifugal Pump

Florence, S. C.

The City of Florence, S. C., will receive bids up to and including July 10th, on the following equipment: One mixed pressure turbine, direct connected to centrifugal pump. Pump to have a capacity of 700 G.P.M., against a discharge head of from 135 to 200 ft. and a suction head of from minus 5 ft. to plus 20 ft. (Reservoir partly above level of pump suction).

Available exhaust steam approximately 3000 pounds per hour at a pressure of from 2 to 5 lb. gage.

Certified check for 10% of amount bid must accompany each bid to guarantee fulfillment of contract.

City reserves the right to reject any or all bids or any part of any bid.

For approximate layout and further details address

CITY OF FLORENCE WATER DEPARTMENT,
M'KEAN MAFFITT,
Supt. Water and Sewers.
F. P. COVINGTON, Commissioner.

Bids received until July 3, 1917.

Road Construction

Trenton, N. J.

Notice is hereby given that sealed bids will be received by the Mercer county board of chosen freeholders for the construction of the River road, section 3, in the township of Hopewell, in the county of Mercer, with a bituminous concrete surface upon a macadam foundation (estimated amount of surface pavement required is 2,874 square yards; of foundation, 2,874 square yards), and opened and read in public at the court house, Trenton, N. J., on July 3, 1917, at 2:30 p.m.

Drawings, specifications and forms of bid, contract and bond for the proposed work, prepared by Harry F. Harris, engineer, and approved by the state commission of public roads, have been filed in the office of the said engineer, at the court house, Trenton, N. J., and of said commission, at the state house, Trenton, N. J., and may be inspected by prospective bidders during business hours. Bidders will be furnished with a copy of the specifications and blue prints of the drawings by the engineer on proper notice and payment of cost of preparation. Bids must be made on the standard proposal forms in the manner designated therein and required by the specifications; must be enclosed in sealed envelopes, bearing the name and address of bidder on the outside, addressed to the board of chosen freeholders of Mercer county, and must be accompanied by a certified check or cash for not less than $1,000, and be delivered at the place and on the hour above named. The standard proposal form is attached to the specifications, copies of which will be furnished on application to the engineer.

By order of board of chosen freeholders of the county of Mercer.

FRANK McCULLOUGH, Clerk.

Bids received until July 5, 1917.

Concrete Paving

Mount Penn, Pa.

Sealed proposals will be received by the Council of the Borough of Mount Penn, Pa., until Thursday evening, July 5th, 1917, at 7.00 o'clock P.M., for 6,000 square yards, more or less, of either plain or reinforced concrete paving, the work to be done on Perkiomen Avenue, west of 23rd Street; 23rd Street, north of Perkiomen Avenue; Carsonia Avenue and Friedensburg Avenue, according to specifications which may be procured from William H. Dechant & Son, Civil Engineers, Baer Building, Reading, Pa. Bids are desired both on the square yard basis and on the basis of cost plus per cent.

At the same time and place, sealed proposals will be received for 3,500 square yards, more or less, of Topeka or sheet asphalt paving to be placed on Perkiomen Avenue, east of 23rd Street, and on 23rd Street, north of Perkiomen Avenue, according to plans and specifications which may be procured from William H. Dechant & Son, Civil Engineers, Baer Building, Reading, Pa.

Council reserves the right to reject any or all bids.

GEO. C. HARTLINE, Borough Secretary,
Mount Penn, Pa.

OFFICE OF THE COMMISSIONERS, District of Columbia, June 25, 1917.—Sealed proposals will be received at the office of the Secretary of the Board of Commissioners, Room 509, District Building, until 2 o'clock P. M., July 6, 1917, for furnishing and installing an Ice Plant at the District of Columbia Reformatory, at Occoquan, Virginia. Blank forms of proposal, plans, specifications and all necessary information may be obtained from the Chief Clerk, Engineer Department, Room 427, District Building, Washington, D. C. A deposit of five dollars will be required from bidders to insure the return of the plans and specifications. Oliver P. Newman, Louis Brownlow, C. W. Kutz, Commissioners, D. C.

CONTRACTS WANTED

for railroad and industrial work. Operate with locomotive crane and automatic concrete plants. Address:

NEWTON ENGINEERING CO.
Milwaukee, Wisconsin

CONTRACT WANTED

For No. 0 Thew **Shovel**—almost new
10 Ton Pitts **Roller**
5 Teams with **Dump Wagons**
New Paving **Mixer**

Or, will rent or sell cheap.

KNAPP MACHINERY SUPPLY COMPANY
120 Liberty Street, New York, N. Y.

ENGINEERING NEWS-RECORD

is the

One Nationally Recognized Medium for Proposal Advertisiug

Practically evevery worth-while contractor and manufacturer who wants to figure on public contracts can be reached by advertising in

THE ONE DOMINANT PAPER

SEARCHLIGHT SECTION

Employment Department

Get your Wants into the Searchlight

ADVERTISING RATES

Under **"Positions Wanted,"** including Salesmen looking for new connections, Evening Work Wanted, etc., undisplayed advertisements cost **3 cents a word,** minimum charge 50 cents an insertion, **payable in advance;** less 10% if one payment is made in advance for four continuous insertions.

Under **"Positions Vacant,"** including Agents and Agencies Wanted, Representatives Wanted, Salesmen Wanted, Partners Wanted, Business Opportunities, Employment Agencies, and Miscellaneous For Sale, For Rent and Want ads.; also Auction Notices, Receivers' Sales, Machinery and Plants For Sale or Wanted, undisplayed advertisements set solid in one paragraph, cost **5 cents a word,** minimum charge $1.50 an insertion.

Machinery advertisments (undisplayed) set with a paragraph for each item, or tabulated, 30 cents a line, minimum 5 lines.

All advertisements for bids (**Proposals**) $3.60 an inch.

If replies are in care of any of our offices (New York, Philadelphia, Chicago) allow five words for the address.

DISPLAYED

1 inch	$3.00 an inch
4 inches	2.90 an inch
8 inches	2.80 an inch
15 inches	2.70 an inch

Rates for larger space furnished on request.

IMPORTANT—In replying to advertisements, do NOT enclose original testimonials, or anything that you may want returned. State your qualifications in as concise and neat a manner as you can and enclose COPIES of testimonials. In machinery ads, use a local name or address if possible so that readers can wire direct and get quick replies.

POSITIONS VACANT

SEVERAL first-class detailers and checkers wanted in engineer's office on shop details for structural steel work for mill buildings, manufacturing plants, etc. Apply, giving experience, age, salary wanted and when able to report. J. Harold Rapp, 1320 Fulton Bldg., Pittsburgh, Pa.

DRAFTSMEN (marine machinery) wanted for the Panama Canal; must have had experience in theoretical and practical boiler and engine design and construction and be capable of laying out water, oil, steam and exhaust piping; salary $175 a month, free steamship transportation from New York or New Orleans, salary beginning date of sailing; must be American citizen (final papers), under 45 years, physically sound; no civil-service examination required. Write "Chief of Office, The Panama Canal, Washington, D. C."

STRUCTURAL fitters and layers out wanted for structural shop in Havana, Cuba; must be fully experienced, rapid and accurate on mill building work; state experience, reference and salary at once; good position for right man; transportation to Havana. P887—Eng. News-Record.

TWO good structural detailers and checkers wanted for structural shop in Havana; must be fully experienced, rapid, accurate on mill building work; state experience, references, salary immediately; transportation to Havana. P888—Eng. News-Record.

COMBUSTION engineer wanted, familiar with large steam plants; experienced in efficiency work. Apply Charles B. Buerger, Atlantic Refining Co., 3144 Passyunk Ave., Philadelphia.

DRAFTSMAN, thoroughly experienced in detailing and checking structural and mechanical working drawings; steady employment; general work at $154 a month; in replying give full particulars. P62 (Tenn.)—Eng. News-Record.

MECHANICAL engineer wanted; experienced in general industrial work and power plant design; preferably one who is also familiar with heating and ventilating. Apply in writing stating experience and salary expected to P. O. Box 623, Harrisburg, Pa.

DRAFTSMAN wanted; one experienced on centrifugal pumps design preferred. Apply Lawrence Machine Co., Lawrence, Mass.

POSITIONS VACANT

ADVERTISEMENTS ARE KEYED

to our office nearest the advertiser. The advertiser's location is indicated by the State abbreviation following the box number.

IN REPLYING

be careful to put on envelope the key number in the ad. and also local address of office to which reply is sent.

10th Ave. at 36th St., New York.
1144 Monadnock Block, Chicago.
Real Estate Trust Bldg., Phila.
Rialto Bldg., San Francisco

IMPORTANT

Original letters of recommendation or other papers of value should not be enclosed to unknown correspondents—send copies. Advertisers' names will not be furnished under any circumstances. Copy received until 4 p.m. Tuesday for Thursday's issue.

A STREET foreman wanted by an old established firm, for the laying of sheet asphalt and bituminous mixtures. Must have at least five years experience. Not over forty-five years old. Season's work with yearly contract to the right party. Salary not a question; must deliver the goods. Also an asphalt plant foreman under similar conditions. State salary. Send application and references to P127 (Wisc.)—Eng. News-Record, Chicago.

SUPERINTENDENT wanted for stone crushing plant. Must be familiar with gyratory crushers and electric and gasoline motors. State age, married or single, experience and references. Salary, $125 per month and bonus. Excellent opportunity for hustler. Steady work and advancement. Plant located in Litchfield County, Conn. P128 (Conn.)—Eng. News-Record.

STRUCTURAL steel detailer with experience on trusses and girders, by firm in Northeastern Pennsylvania. State experience, firms and salary. P102 (Pa.)—Eng. News-Record, Phila.

DRAFTSMAN wanted; mechanical and structural. Apply Charles B. Buerger, Atlantic Refining Company, 3144 Passyunk Avenue, Philadelphia.

FOREMAN on alteration work, New York and vicinity. Steel erection, rigging, shoring, concrete, timber-work, etc. Sober, tactful man, able to handle a variety of work. Please state qualifications, salary, etc. P105 (N.Y.)—Eng. News-Record.

POSITIONS VACANT

SUPERINTENDENT or general foreman for manufacturing plant in Texas, consisting of structural steel, blacksmith, machine, boiler and tank departments. Must be capable of handling men and making his own estimates on new and repair work. State age, experience and salary wanted. P103 (Tex.)—Eng. News-Record, San Francisco.

ASSISTANT mechanical engineer, 30 to 35 years, wanted. Must have gas engine and steam engine experience. Salary, $1200 per annum. Fuel, natural gas. Eight hour shifts. Modern station. Should be good mechanic. Clarksburg Water Board, Clarksburg, W. Va.

ENGINEER draftsman wanted, must be competent and a man of experience; rapid and neat on road profiles, some knowledge of computing weights, etc., on steel highway bridges, prepare plans for small piers and abutments; salary to begin, one hundred twenty-five dollars; none but competent men of experience need apply; prospects for competent man good here; wire or write consulting engineer, 507 West Choctaw Ave., McAlester, Okla.

Owing to holiday next week, the

July 5th issue

will close for press ON MONDAY.

SEARCHLIGHT SECTION

Employment Department

POSITIONS VACANT

MECHANICAL engineer and draftsman wanted, familiar with designing hydraulic dredges and tug boats. Please state age, experience and salary desired. P111 (N.Y.)—Eng. News-Record.

DRAFTSMAN for miscellaneous and ornamental iron work, also structural man, capable of checking. Location, Detroit, Michigan. P108 (Mich.)—Eng. News-Record, Chicago.

CONTRACTOR'S superintendent wanted for large concrete road contract in Northwestern Ohio. Must be thoroughly practical, also competent executive and organizer, capable of efficiently handling entire operations. State salary, experience, and if immediately available. P135 (Mo.)—Eng. News-Record, Chicago.

CIVIL-SERVICE OPPORTUNITIES

Applications for the following will be received at State Civil Service Commission, Albany, N. Y., until July 18.

ASSISTANT chemist (1st Dist.) $1201-$1500.

JUNIOR assistant (Eng'rg Dept.) $901-$1200.

ARCHITECTURAL tracer; $480-$900.

SANITARY engineer (State architect's office) $1800-$2500.

GENERAL foreman (Bldg. construction) $2000.

PHYSIOLOGICAL chemist; salary $1500.

EMPLOYMENT AGENCIES

INSTRUCTORS, teachers, assistant professors and full professors for engineering and scientific subjects; we have quite a few openings for such parties. H. H. Harrison & Co., Teachers' Agency, Association Bldg., Chicago.

ENGINEERING OPPORTUNITIES

Structural Detailers, 2,	$150
Mine Plant Draftsman	150
Surveyors, 2, for W. Va.	110
Railroad, Draftsman, M. of W	125
C. E. Plant Constr.	110
Municipal Instrumentman	90
Railroad Val. Engrs. and Draftsman	

THE ENGINEERING AGENCY, Inc.
Established 24 years
1662 Monadnock Block, Chicago, Ill.

Advancement is nearly automatic to Structural Draftsmen

And they are always in demand

The knowledge you acquire in studying structural Draftsmanship *is the kind that counts in Structural Engineering!* It leads to higher salaries, the breaking away from routine, and A FUTURE FOR YOU.

A thorough course by mail is now available. Write for details.

M425, Engineering News-Record

EMPLOYMENT AGENCIES

CORRESPONDENCE SERVICE

THE undersigned provides a confidential service designed to locate openings, through correspondence, for men earning not less than $2500 and up to $25,000; all lines. Not an employment agency, but a constructive, initiative service, covering individual negotiations. Established 1910. Complete privacy assured; present connections in no way jeopardized. Send name and address only for explanatory details. R. W. Bixby, T1 Niagara Square, Buffalo, N. Y.

POSITIONS WANTED

Mechanical and Electrical Engineers

ENGINEER, construction, mechanical, electrical; American; specialist factory construction and equipment; finishing large new factory in Canada; available about July first to fifteenth. PW83 (Can.)—Eng. News-Record.

GRADUATE mechanical engineer, 28; American; experience on railroad and subway construction; industrial building construction; gas pumping stations; gasoline recovery plants; at present employed; desire change; salary upon application. PW146 (Ohio)—Eng. News-Record, Phila.

MECHANICAL engineer (37), technical school and 12 years extremely varied experience; competent to take charge of important work. PW156—Eng. News-Record.

THE BEST WAY

to get a good position in Drafting or Engineering is to file an application direct with some of our clients who are depending on us to get competent and experienced applicants for their Vacant Positions. Send stamp for Blank and List of Vacant Positions.

The Cleveland Engineering Agency Co.
Rose Building, Cleveland, Ohio

Study Reinforced Concrete Engineering and Structural Steel Designing Under an Experienced Engineer

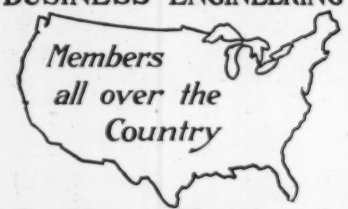
A superior course of mail study has been prepared by this engineer. The plan is to teach students by having them **actually do the work,** and all criticisms and corrections are made in person by the instructor.

Each individual is treated as though he were the only one taking the course of work.

You get actual Engineering Experience

M459—Eng. News-Record.

BUSINESS ENGINEERING



Are You a Member? Join Now!

American Association of Engineers
National Cooperative Business Organization
601-29 So. La Salle Street, Chicago

EXPERIENCED

Labor Overseers

ARE NEEDED
IN THE

U. S. ARMY

If you have had experience as a boss or overseer over construction gangs, or any laboring body of men—the U. S. ARMY can use you to good advantage.

Apply to

Officers Recruiting or the Quartermaster Section nlisted Reserve Corps.

Chicago, Ill. Cincinnati, Ohio
Cleveland, Ohio Denver, Colo.
Detroit, Mich. Milwaukee, Wis.
Omaha, Nebr.

THE U. S. ARMY
NEEDS
PACKERS
With Pack Trains

Men of experience in the pack train service of the army or similar line of civil life. Only those possessing the requi ements prescribed for recruits for the Field Artillery should be interested, as the service is arduous.

"DO YOUR BIT"
where you are best qualified.

Apply to

Officers Recruiting for the Quartermaster Section Enlisted Reserve Corps.

Chicago, Ill. Cincinnati, Ohio
Cleveland, Ohio Denver, Colo.
Detroit, Mich. Milwaukee, Wis.
Omaha, Nebr.

UNCLE SAM
NEEDS
PACK-MASTERS
Will You Come?

Men of experience in the pack-train service of the Army or similar line in civil life, capable of taking charge of a pack train, composed of 50 pack mules and 13 men—should be capable of setting up a pack saddle, packing same, etc., and able to impart instructions in this connection and in the care of mules.

If You Can Qualify

Apply to

Officers Recruiting for the Quartermaster Section Enlisted Reserve Corps.

Chicago, Ill. Cincinnati, Ohio.
Cleveland, Ohio Denver, Colo.
Detroit, Mich. Milwaukee, Wis.
Omaha, Nebr.

SEARCHLIGHT SECTION

Employment Department

POSITIONS WANTED

Civil Engineer

WATER-WORKS engineer, associated with consulting expert in design, construction and operation of waterworks wants responsible position with private corporation (water-supply or industrial) or industrial engineer; can organize and manage engineering department or office; university graduate; age 33; eight years in responsible charge of work; Eastern location preferred; salary $2400; available June 15. PW820—Eng. News-Record.

GRADUATE civil engineer and contractor's superintendent; 31; married; 10 years' experience on railway location and construction, highway construction, land, topographic and hydrographic surveys, harbor improvements, municipal and sanitary engineering and gas plants. Speaks Spanish fluently. Good executive. Best of references. Desires position where sober, competent and energetic man will have opportunity for advancement. Personal interviews in New York City and vicinity. PW969 (Mass.)—Eng. News-Record.

GRADUATE engineer, 38; high-grade executive; 16 years' experience topographic, hydrographic, geodetic and precise surveys; compilation, drafting and engraving of maps. PW913 (N. J.)—Eng. News-Record.

EXPERIENCED engineer on sewer and paving construction, capable of handling entire job, surveys, lines, grades, inspection tests, etc. Graduate, 1912, desires position as assistant or resident engineer. PW23 (N. C.)—Eng. News-Record, Phila.

CIVIL engineer, and draftsman, 25, technical graduate, experience in highway steel and railroad work, seeks opening in field or office; vicinity New York. PW30 (N Y)—Eng. News-Record.

CIVIL engineer, graduate, has 6 years' responsible experience as designer and estimator in steel and reinforced-concrete on railroad work and industrial buildings; good draftsman; excellent references; prefer location in or near New York City. PW82 (Ala.)—Eng. News-Record, Phila.

CIVIL ENGINEER, M. Am. Soc. C. E., 39, technical education, 13 years' experience drainage, irrigation, municipal and hydro-electric work is open for engagement July 1 as engineer or superintendent of construction; can produce results; go anywhere; salary, $3000. PW70 (Ill.)—Eng. News-Record, Chicago.

ENGINEER-MANAGER, Mem. Am. Soc. C. E., 17 years' experience, dams, locks, canals, water-works, sewers, highways, buildings; at present chief engineer for a large water company; salary, $5000. PW79 (N. Y.)—Eng. News-Record.

GRADUATE civil engineer, 29, married, 5 years' experience water-works and sewer systems, sewage disposal, pavements, highways, plain and reinforced concrete, drainage; design and construction, surveying, drafting, good executive, 3 years as resident and city engineer. PW61 (Ill.)—Eng. News-Record, Chicago.

CIVIL engineer; 8 years' experience in all phases of road building, understands materials and methods. Accurate estimator for contractors. PW94 (N.Y.)—Eng. News-Record.

GRADUATE civil engineer, 32; 6 years' experience covering railroad, highway, canal and subway survey and construction. For the last two years in charge of engineers and inspectors who made up monthly estimates, inspected material and supervised construction on large building construction work; desires position as engineer on heavy construction or on building construction. PW109 (N.Y.)—Eng. News-Record.

CIVIL engineering graduate; 2 years' experience in structural drafting, 4 years' experience in surveys and supervision of construction, desires position. Had charge of field party and construction. All around man in field and office. References. Go anywhere. PW118 (N.Y.)—Eng. News-Record.

CONTRACTORS: Position wanted as general assistant to contractor by graduate civil engineer. Two years' experience, structural work, estimating, time and cost records, etc. PW116 (N.Y.)—Eng. News-Record.

GRADUATE engineer, twenty-seven years old, desires position as contractor's engineer, or with public service company, five years general construction, mains, subways, etc. Good field man, capable of handling men. PW115 (N.Y.)—Eng. News-Record.

CIVIL engineer, graduate, 11 years' experience. Construction, design, and representative for consulting engineers, bridges, smelters, industrial plants. PW 110 (Ill.)—Eng. News-Record, Chicago.

CIVIL engineer, 33, railroad experience, six years, preliminary location, construction and valuation. Municipal experience, four years, water-works, paving, sewers, and sewage disposal. Designer and executive; available two weeks' notice. American, speaks Spanish. PW106 (N.C.)—Eng. News-Record, Phila.

CIVIL engineer, 31, married, desires position of permanence with engineer or contractor. Eastern location. Responsible construction experience and practical knowledge of reinforced concrete design. Available now. PW107 (Conn.)—Eng. News-Record.

CIVIL and mechanical engineer, M. Am. Soc. C. E., executive; 30 years' experience railroads, tunnels, water-works, filtration plants, harbors, dredging, submarine rock excavation, masonry bridges, dams and heavy construction; wide experience safe estimates cost, difficult construction, design, special plant, including dredges, submarine drill plant and other floating equipment; New York references and interview. PW132—Eng. News-Record.

READ THE

Searchlight Section

EVERY WEEK

The For Sale pages are a weekly "Bargain Sale"—the biggest to be found anywhere, because the News-Record publishes more ads of this kind than can be found in any other journal.

Every issue contains offers of equipment by which contractors can save a lot of money. It is a habit counting for economy to look over the For Sale pages every week whether or not a contractor intends to buy anything at the moment. This keeps him in touch with what is available—and where—when he must buy.

Keep an eye on the Want columns at the same time. They afford an easy means of marketing equipment for which one concern may have no further use, but which may be just what another concern wants.

Altogether the Want and For Sale pages of the Engineering News-Record form an "Opportunity Department" that hardly anybody in the engineering-contracting field can pass by without losing money.

ENGINEERING NEWS-RECORD

10th Ave. at 36th St., New York

DO YOU NEED A CIVIL ENGINEER?

The advertiser is a graduate of one of this country's leading technical universities. He is an associate member of the Am. Soc. C. E. He has had fourteen years' experience in designing, estimating and supervising all kinds of municipal and railroad construction, and constructing work.

He is now connected with a large contracting firm as assistant engineer.

He will consider a position in contracting or civil engineering line in which his knowledge, initiative and executive ability can be utilized to advantage. Place as Chief Engineer for firm of contractors preferred. He does not wish to make a change from his present position unless the place has substantial responsibilities and remuneration in accordance with them.

Present location, N. Y., but will arrange for an interview anywhere within a thousand miles, provided you are really interested in securing a man having the above qualifications.

Address—Advertiser, Room 1408, 11 Pine St., New York

SEARCHLIGHT SECTION

Employment Department

POSITIONS WANTED

CIVIL engineer, graduate, several years on construction, surveys and drafting; varied experience. PW123 (Pa.)—Eng. News-Record, Phila.

CIVIL engineer, member Am. Soc. C. E., with extended experience in construction and management work is open for engagement of executive responsibility. PW121 (N.J.)—Eng. News-Record.

COOPER Union day school graduate, C. E., 20, wishes connection with construction company or consulting engineer. Vicinity New York preferred. PW117 (N.Y.)—Eng. News-Record.

CUBAN civil engineer, 24, just graduated, desires connection with reputable engineering firm to obtain experience. English and Spanish. Abrem, 722 Greene Avenue, Brooklyn, N. Y.

CIVIL engineer, twenty years' experience; last three years on design, construction and operation, gun-cotton and smokeless plants. Now employed; work nearing completion. Complete staff. PW52 (Can.)—Eng. News-Record.

CIVIL engineer, city surveyor, superintendent, 11 years' experience field, office, building construction, estates, industrial subdivisions, roads, street improvements sewers, etc. PW137 (N. Y.) —Eng. News-Record.

TECHNICAL civil engineering young man (22), 4 years college, desires position in which he can gain more experience; available June 2, 1917. PW136 (N. Y.)—Eng. News-Record.

GRADUATE civil engineer, 20 years' experience designing, estimating and erecting concrete, steel and wooden structures, desires position near Chicago; best of references and details furnished. PW141 —Eng. News-Record, Chicago.

CIVIL engineer, graduate, 26, four years' experience concrete bridge, highway, subway, steel-mill construction; desire position where I can learn practical designing; I have been doing outside work; am now looking for the inside job; good references; vicinity New York. PW149 (N. Y.)—Eng. News-Record.

CIVIL engineer, over 20 years' experience railroad location, construction and maintenance, last three years valuation, now employed, desires responsible position. PW160 (N. J.)—Eng. News-Record.

Bridge and Structural

STRUCTURAL engineer, 33; Assoc. M. Am. Soc. C. E.; 13 years' experience in design of steel and reinforced concrete railroad and highway bridges and foundations; location New York City preferred. PW914 (N J)—Eng. News-Record.

STRUCTURAL engineer; technical training; experienced in shop practice, designing, detailing, erecting and selling, desires position in engineering department or as sales engineer. Best of references. PW125 (Texas) — Eng. News-Record, Chicago.

STRUCTURAL engineer, graduate, 12 years' designing steel and concrete structures, bridges, railway structures; mechanical filtration plants, hydro-electric power development. PW87 (Md.)—Eng. News-Record.

POSITIONS WANTED

ENGINEER with broad experience in building construction and equipment of manufacturing plants, is seeking connection with consulting engineer or firm to whom this experience would be valuable. PW 985 (N Y)—Eng. News-Record.

EXPERIENCED structural steel and reinforced concrete engineer; mill buildings, bridges, conveyors; open for engagement. PW153 (N. Y.)—Eng. News-Record.

STRUCTURAL engineer; 16 years' experience, mostly industrial plants and buildings; detailing, estimating, designing and supervising. PW158 (N. Y.)—Eng. News-Record.

INDUSTRIAL ARCHITECT—A practical man of wide experience, good executive, desires permanent connection with corporation; salary, $2500. PW69 (N, Y.) —Eng. News-Record.

Surveyors

TRANSITMAN and engineer; one who is capable and able to handle the building of a narrow-gage railroad, both field and office work; to start at once; state age, experience and salary exepected; good opportunity for the future. PW144 (Tenn.)—Eng. News-Record, Chicago.

Draftsmen

DESIRE position as chief draftsman or squad leader; fully abreast of modern methods; proven executive ability; 15 years' varied experience. PW63 (Ill.)—Eng. News-Record, Chicago.

STRUCTURAL draftsman and designer, technical graduate. 6 years' experience detailing, checking and designing all kinds of steel structures, some experience in reinforced concrete, desires permanent position, preferably with consulting engineer. PW130 (Ill.)—Eng. News-Record, Chicago.

STRUCTURAL steel draftsman (checker) of over seven years' experience, desires extra work at home; detailing, checking or both on all kinds of steel structures; hoppers, hip and valley work and coal-handling plants especially solicited; expediency a feature; write for complete information. PW77 (Ohio)—Eng. News-Record, Phila.

POSITIONS WANTED

DRAFTSMAN; age 32, nine years experience topographical, railroad and general engineering, wants permanent position. PW124 (Ohio)—Eng. News-Record, Chicago.

DRAFTSMAN desires position, experience topographical maps and profiles. Location, New York City. Address PW119 (N.Y.)—Eng. News-Record.

LADY, experienced, desires position as draftsman in engineer's office; location anywhere. PW152 (Ia.)—Eng. News-Record, Chicago.

ESTIMATOR, 15 years in charge of estimating for large general contractor on masonry, carpentry and reinforced concrete; letting subcontracts, listing trim and lumber and general office work; annual business two to three million; wishes to change. Room 420, 1269 Broadway, New York City.

DRAFTSMAN desires position; graduate surveying, mapping and mechanical drawing. PW155 (N. Y.)—Eng. News-Record.

YOUNG man, 25 years, attending college, desires executive, secretarial or accounting position with architect, engineer or contractor after school hours; have 9 years of field and office experience on large building construction; locality immaterial if near recognized engineering college. PW159 (Ill.)—Eng. News-Record, Chicago.

STEEL and concrete designer and draftsman; also general drafting experience; position with contractor preferred. PW 165 (N.Y.)—Eng. News-Record.

Laborers and Mechanics

furnished for all kinds of construction and industrial works; **free of expense** to the employer, provided transportation is advanced. Also Commissaries conducted on a modern plan, and no alcoholic beverages sold.

EMPIRE LABOR AGENCY
Tel. 1745 *Franklin* 93 Mulberry St., N. Y.

DO YOU NEED LABORERS? ***Just Call Canal 8970***

Any number of laborers of any nationality supplied on short notice anywhere. Commissary conducted on a new system; courtesy, promptness, efficiency.

The Central Labor Agency, *Main Office*: 139 Mulberry St., N. Y.

IT WILL PAY YOU TO GET IN TOUCH WITH US

Skilled and Unskilled Labor All Nationalities

Men for Mines, Mills and Construction work supplied in any number.

Commissary and Boarding Camps our Specialty.

INTERNATIONAL LABOR AGENCY

153 Bowery, 353 Bowery, **New York City**

Phones Orchard 77 7075 3416

SEARCHLIGHT SECTION

Employment Department

POSITIONS WANTED

STRUCTURAL designer and draftsman, 31, seven years' experience design, layouts, detailing; technical graduate; desires permanent connection. PW143 (Pa.)—Eng. News-Record, Phila.

Superintendents

SUPERINTENDENT of construction; first-class executive, broad experience; difficult foundations, locks, dams, bridges, building and industrial plant construction; concrete a specialty. PW1001—Eng. News-Record.

FOREMAN, 40 years old; does not drink; understands pile driving, sheetpiling and coffer-dams; all kinds, both wood and steel. Fred C. Smith, R. F. D. No. 1, Richland, N. Y.

SUPERINTENDENT of construction for general contractor; 13 years' field and office experience in building construction; good executive, employed, age 35; available July 1st. PW927 (Mass.)—Eng. News-Record.

TRESTLE foreman; American; 45; married; 16 years' experience on temporary trestles for steam shovel work and flumes for hydraulic sluicing; highest references; 7 years in Latin America; speaks Spanish; go anywhere. PW5—Eng. News-Record.

CONTRACTOR'S assistant. Superintendent, estimator, general superintendent; American, 35, 6 years' experience civil engineering and 12 years' general contracting experience; good organizer, broad field and estimating experience in roads, pavements, sewers, dams, bridges and reinforced-concrete; location immaterial; salary open to offer. PW163 (Conn.)—Eng. News-Record.

SUPERINTENDENT construction, office, theater, schools and mill buildings, steel brick and reinforced concrete; 18 years in charge; 6 years with previous employer, 3 years present; age 40; available July 15. PW162 (Tex.)—Eng. News-Record, Chicago.

SUPERINTENDENT of construction or manager for general contractor; ten years' experience in all branches of building construction; capable estimator; technical education and broad practical experience; age 35; available now. PW157 (N. Y.)—Eng. News-Record.

SUPERINTENDENT, 12 years in charge of large constructions, tunnels, heavy trench, foundation and irrigation work, underground, reinforced concrete and difficult excavation a specialty; first-class practical all-round man; best references. PW148 (N. Y.)—Eng. News-Record.

SUPERINTENDENT of construction for general contractor, reinforced concrete a specialty, graduate civil engineer, hustler, economical organizer, finishing present work July first, first-class crew following, desires independent position or will contract for reinforced concrete work. Location, New York City or State. PW104 (N.Y.)—Eng. News-Record.

MANAGER or superintendent manufacturing or power company, wants better position; familiar modern business and efficiency methods and chemical, electrical, steam, hydraulic engineering; in responsible charge building large chemical plant; present salary $3000. PW138 (Cal.)—Eng. News-Record, San Francisco.

SUPERINTENDENT, 40; 15 years' practical experience on heavy construction; first-class executive, with large following; willing to go anywhere. PW987 (Can.) Eng. News-Record, Chicago.

QUARRY and crusher superintendent wants position; 12 years' experience; straight and sober; report in 6 days. PW78 (N Y)—Eng. News-Record.

GENERAL foreman, carpenter and concrete foreman; age 40; 20 years' experience on concrete arch bridges, sewage treatment and water purification plants, aqueducts, tunnels and heavy timber structures; will go anywhere. PW988 (Can.) —Eng. News-Record, Chicago.

SUPERINTENDENT specializing organization and low costs, installations and heavy construction; fluent Spanish and Portuguese, foreign and domestic experience. PW151 (N. Y.)—Eng. News-Record.

INSPECTOR or foreman, American, experienced, highway, bridge, culvert, construction. Vicinity New York. PW120 (N.Y.)—Eng. News-Record.

SUPERINTENDENT or carpenter foreman for reinforced concrete or construction open for position. PW122 (N.Y.)—Eng. News-Record.

INDUSTRIAL ENGINEER

Assoc. Mem. Am. Soc. Mech. Eng.

with several years' American experience, especially in textile and paper, in accepting an influential position at a Technical University in Russia, wishes to get in touch with American manufacturers and engineering firms that contemplate foreign export trade. PW46 (Mass.)—Eng. News-Record.

GENERAL or carpenter foreman, age 48, 17 years' experience in modern construction, business and residential. Energetic, competent and reliable. Best references; go anywhere. PW95 (N.Y.)—Eng. News-Record.

BUILDING superintendent, 31, graduate in civil engineering, Mass. Inst. Technology; 10 years' building experience in Eastern and Central States as estimator, contractor, superintendent; available at once; Chicago or New oYrkinterview. PW164 (Wis.)—Eng. News-Record, Phila.

Miscellaneous

ENGINEER; 28; three years' technical training, six years railroad location, mill construction, sewers, surveys, drafting. PW39 (N. Y.)—Eng. News-Record.

PORT ENGINEER; Assoc. Mem. Am. Soc. of C. E., desires engagement about Aug. 15; in charge of large works; twenty years' active practice; salary, $3000. PW73 (Cal.)—Eng. News-Record, San Francisco.

VALUATION engineer, technical training, three years' valuation experience with Interstate Commerce Commission as junior engineer; two years' city valuation experience; three years railroad construction experience; age, 28; reference as to character, personality and professional ability furnished; available July; Salary, $150 month. PW76 (Ill.) —Eng. News-Record, Chicago.

BUILDING specification writer—An exceptionally capable writer of building specifications desires position with a busy firm; have had ten years' experience, and have specified over six million dollars worth of work during the past year; am thoroughly familiar with industrial buildings and reinforced concrete. PW997 (Pa.)—Eng. News-Record, Phila.

CONSTRUCTION engineer would like permanent position with contractor or engineer; thoroughly familiar with subway and sewer construction; capable estimator; location immaterial; salary $150; available July 15th. PW56 (N. Y.)—Eng. News-Record.

ENGINEER, industrial railway, experience purchasing, selling, designing; moderate salary; American, 32, married. PW139 (N. Y.)—Eng. News-Record.

POSITION with contractor; municipal and sanitary engineer, graduate, 25, assistant in design, have charge construction pavements, sewers, water, gas, ornamental lighting; business and executive ability, desires to get into contracting game for all there is in it. PW140 (Ind.)—Eng. News-Record, Chicago.

CONTRACTOR'S engineer, superintendent, 33, Assoc. M. Am. Soc. C. E., 13 years' railroad, concrete bridges, arches, sewers, disposal plants, pile driving, difficult excavations; good organizer; salary $225; Philadelphia interview. PW 142 (N. J.)—Eng. News-Record, Phila.

YOUNG man, two years' technical training, knowledge surveying, desires position with contractor, surveyor; capable plotting notes. C. J. B., 344 East 84th St.

SHIPBUILDING or dredging engineer, technical graduate, 15 years' experience as engineer and executive on wharves, foundations, dredging and harbor improvements, desires position with shipbuilding or dredging company. PW147 (R. I.)— Eng. News-Record.

Position Wanted by Civil Engineer with

UNUSUAL EXECUTIVE ABILITY

Age 35. Graduate Engineer. Associate Member of American Society of Civil Engineers. Has held important positions of responsibility and trust for eleven years in railroad, irrigation, drainage, and general development work. Is a good organizer, has good business judgment, and can design and direct work of large magnitude. Salary of present position $6000 per year. Leaving because of lack of future.

PW101 (Fla.)—Eng. News-Record, Phila.

SEARCHLIGHT SECTION

Employment Department

POSITIONS WANTED

YOUNG MAN, 23, with some technical and mechanical experience in electricity, desires connection with a surveying party; able to furnish highest credentials. PW 145 (N. Y.)—Eng. News-Record.

ASPHALT plant inspector; chemist capable of making tests, analysis of materials and pavement, and figuring mixtures. Very best references. PW96 (Ill.)—Eng. News-Record, Chicago.

COLLEGE man, general technical education, 10 years' experience in architects' and builders' offices, desires position as architectural superintendent, or in estimating department with a contractor. PW112 (N.Y.)—Eng. News-Record.

POSITION of trust where ability will count. Qualified as stenographer, typewriter, bookkeeper, etc. Experienced in estimating and the supervision of construction work in all its branches. PW 113 (N.Y.)—Eng. News-Record.

YOUNG man, 19, one year in engineering college, wants work near New York City for the summer. PW114 (N.Y.)—Eng. News-Record.

VALUATION engineer, married man, under thirty, with six years' railroad, four years' valuation experience, knowledge of details, capable of taking charge of office, now employed, desires position, preferably large town. PW126 (Kansas)—Eng. News-Record.

TIMEKEEPER; cost man, 15 years' experience on construction work. First class references or bond given. Will go anywhere. Would like to go to South America. Age 33. PW131 (Ill.)—Eng. News-Record, Chicago.

TIMEKEEPER; Syracuse University student wishes to do clerical work and make himself generally useful on a construction job. Report at once. Salary fifteen dollars. PW129 (N.Y.)—Eng. News-Record.

Your Advancement

is largely in your own hands—it is doubtful if anyone else is worrying over it

Better positions are constantly being secured through small advertisements in the "Positions Wanted" Columns

60 cents for 20 words

POSITIONS WANTED

IS a technical training worth anything to you? I want to work into a responsible business position; graduate civil engineer, 26, and can give A1 references where have been doing construction work; vicinity New York. PW150 (N.Y.)—Eng. News-Record.

EVENING WORK WANTED

Graduate engineers in New York City want drafting and designing for side line or evenings; structural steel and reinforced concrete a specialty; excellent references. W983 (Pa.)—Eng. News-Record, Phila.

AGENTS AND SALESMEN

Sales Promoter Wants Position

SALES PROMOTER—Successful specialty sales manager and salesman, especially good on introductory work, is open for high-grade connection July 1; enthusiastic, convincing talker, has initiative, stability, good appearance and judgment; can handle large business; American born, single, technically educated with practical experience; member A. S. M. E.; age 37; has covered territory from New York to San Francisco; will go anywhere; no objection to long trips; salary, $2500. W154 (Cal.)—Eng. News-Record, San Francisco.

Representative Seeks Position

RESPONSIBLE position as executive or sales representative in Chicago district for manufacturer of a reliable product; am married, 37 years of age, with initiative and ideas, and measure success only in services rendered; am technical graduate in mechanical and structural engineering; unusual ability to direct men and handle important matters, having had fourteen years' experience; large acquaintance in territory. W161—Eng. News-Record.

Mechanical Engineer Wants Position

YOUNG Swedish mechanical engineer recently arrived from Russia, after several years' stay there, and knowing well the Russian language and commercial situation, desires to get in touch with an American firm in order to return later to Russia for this firm. W134—Eng. News-Record.

BUSINESS OPPORTUNITIES

Man With Capital Wanted

AN EXPERIENCED man wanted, having from ten to twenty thousand dollars to join with the advertiser in the development of a plant for the manufacture of brass valves, etc.; yearly business of fifty thousand waiting. BO66 (Pa.)—Eng. News-Record, Phila.

PATENT ATTORNEYS

IMPROVEMENTS wanted. Send for free bulletins listing manufacturers' wants and book "Inventions—Patenting and Promoting." Lancaster & Allwine, 272 Ouray Bldg., Washington, D. C.

WANTED

Drafting

Complete drawings made from sketches; map work a specialty; computations and tabulations of hydraulic data. W895 (Ill.)—Eng. News-Record, Chicago.

Work Wanted

for steam shovel and grading equipment; also tractor and 4-yd. trailor; available at present. W980 (N.Y.)—Eng. News-Record.

WANTED

Structural Designs

and details furnished on contract basis; all work guaranteed. "Engineering," 2339 North 21st St., Philadelphia, Penn.

Wanted at Once

for immediate shipment, any quantity of battery lead plates, sediment scrap copper and wire, brass and all other grades of scrap material. Write to us today for our prices. National Metal and Rubber Co., 31 India Wharf, Boston, Mass.

Engineering News, Vols. 72, 74, 75

wanted. Write Observer Printing House, Charlotte, N. C.

FOR SALE

Steel Stacks and Guy Wires

On account of enlarging our power plant and the building of a large brick stack we have for sale two steel stacks, collars and guy wires; one stack 150 ft. high, 54 in. diameter, one stack 105 ft. high, 48 in. diameter; delivery about July 1st; stacks can be examined at our works. Apply Western Felt Works, 4115-33 Ogden Ave., Chicago.

Derricks For Sale

TWO 20-35 ton capacity sectional steel guy derricks; 105 foot mast and 95 foot boom. 1¼ inch steel guys, 2 inch turn buckles, $2500 each. Overland Construction Company, New York Life Building, Chicago, Ill.

AN OPPORTUNITY EXISTS

for an active business man, preferably with technical training, with about $45,000 capital to

Purchase Controlling Interest

in long-established corporation in the Metropolitan district engaged in a manufacturing engineering business. Replies stating age, moral and business recommendations should be in detail and will be treated confidentially. Reason for this opportunity the death of an active member of the Company.

PO669—Eng. News-Record

Any one interested in

Crushed Stone—

think we have a proposition that will be time well spent in giving same a thorough investigation.

We have located on the B. & A. R. R., one-half distance between Pittsfield and Springfield, immense piles of clean pieces of granite, suitable to put into crusher. These piles have been accumulating for over thirty years.

Will give this material free of charge and would consider taking part interest with responsible parties.

Hudson & Chester Granite Co.
Chester, Mass.

SEARCHLIGHT SECTION

Miscellaneous

FOR SALE
Several
Contractors' Lights
Acetylene

Portable type lights in good operating condition. Practically unused. Immediately available.

Address: FS-99 (Md.) Eng. News-Record, Phila.

Eco Clock Company

Electric and Portable Watchman's Clocks accurately repaired. Dial orders solicited.

No. 197 Congress St., Boston, Mass.

BOILERS
1—30, 40 and 60 hp. locomotive type, on wheels
1—40-hp. locomotive type, on skids
BUCKETS
1—¾-yd. Hayward Orange Peel
1—¾-yd. Haiss Clam Shell
1—½-yd. Single Line Clam Shell
DERRICKS
2—40-ft. boom stiff-leg derricks, with blocks, fittings and bull wheel
HOISTING ENGINES
1—7½ x 10 National D. D. D. C., with boiler
1—7 x 10 O. & S. 3-drum D. C., with boiler and swinger
1—7 x 10 Lambert D. C., D. D., without boiler
HAMMERS
3—Union, Nos. 2—3—6
2—McKiernan-Terry No. 5
PUMPS
1—Pulsometer Nos. 4, 5 and 8
1—6-in. Morris sand, direct connected to engine
1—10-in. Morris sand, direct connected to engine
GRADER
1—Good Roads road grader (new)
MIXERS
1—½-yd. Standard, gas engine on wheels
1—¾-yd. Ransome, gas engine with loader on wheels
WIRE ROPE
1000 ft. ⅝-in. Crucible Steel Rope
HOLDING DRUM
1—O. & S.
CONCRETE TOWER EQUIPMENT
2—½-yd. Ransome elevator buckets
2—¾-yd. Ransome Batch Hoppers
1—175 ft. chute
SHOVELS
1—No. 1 Thew revolving traction steam shovel equipped with ordinary and extra shipper shaft boom, ¾-yd. dipper
TRENCH MACHINE
1—Potter, 4-bucket type, spans trench 10½ ft. wide, 275 ft. long (will rent)

H. McK. GLAZEBROOK
143 Chambers Street, New York City
'Phone 1315 Worth

FOR SALE
Small Manufacturing Plant

at Plainfield, New Jersey, situated near freight depot; frontage 100 ft. on avenue, depth 150 ft., artesian well, sewer and electric lights.

Three modern manufacturing buildings, concrete block construction, frame office building; 50 H.P. horizontal tubular boiler, power connection, all of modern construction, three years old; **suitable for chemicals or any industrial purpose.** Particulars furnished on ,pplication to owners.

FS45 (N. J.)—Eng. News-Record

FOR SALE
HARBOR FRONT PROPERTY
Providence, Rhode Island
AN IDEAL FACTORY SITE

4½ Acres—440 ft. Harbor Front on Deep Water—Main Channel
Spur Track R.R. Facilities
¾ Mile from Center of City

Excellent Labor Conditions. Fronts on 3 streets. Immediate Possession. Several Buildings. Site of abandoned North Station Plant.

Apply to
PROVIDENCE GAS COMPANY
Providence, R. I.

Get your copy in early—

Owing to tne holiday next week, the forms for the Searchlight Section of the

July 5th issue

of

ENGINEERING NEWS-RECORD

will close for press Monday night.

Little "WANT" cards bring big results in the News-Record

FOR SALE
75 BARRELS OF GAS TAR

Tar located at Natural Bridge, N. Y., on the C&A Branch of New York Central Railroad.

For full particulars address,
Basic Refractories Corp., 114 North George St., York, Pa.

"Splendid Buys"—Special Weekly Snaps

1—Marion Model 31, excellent condition, one-yd. dipper **Traction Truck**, used but ten months, shop number about 3100, ready for shipment, F.O.B. Chicago.

1—Type B Erie Shovel, ¾-yd., new August, 1916. Location, Illinois.

1—30-ton Vulcan Standard Gage, 4-wheel, 12 x 18 **Switching Engine**, splendid shape, carrying 140 lb. Located at St. Louis, Mo.

2—Milwaukee **Boilers**, 72 in. x 18 ft., Horizontal Tubular, built for 150 lb., will pass Hartford for 135 lb. or more, complete with all fittings, grates, headers, header valves, full flush fronts, splendid condition, price $2400 the pair, F.O.B. Commonwealth, Wisc.

1—8½ x 10 Lambert **Hoist**, with 50 H.P. Boiler, splendid condition, price $1050 F.O.B. Chicago.

1—Canton Hughes Duplex, compound high-pressure **Pump**, Shop No. 12824, size 12 x 18 x 10 x 18 in., suction 8 in., discharge 6 in. Capacity 800 gal. per minute. Used four months. Located at Chicago.

1—Ingersoll-Sargent Duplex Belt-driven **Compressor**, size 12 x 12½ in., Class J-1, with intercooler and sub-base. Capacity 472 feet. Located at Chicago. Excellent condition.

1—No. 1 Thew Shovel, 1¼ yd., traction wheels, Ohio boiler. First-class shape.

25—1½ yd. Western Side **Dump Cars**, steel truck, as good as new, F.O.B. Chicago.

1—120 K.W. Westinghouse **Generator**, complete, 3 phase, 60 cycle, 440 volts with exciter, switchboard with instruments thereon, exciter belt and cables. Price $1150 F.O.B. Chicago.

If in the market for SHOVELS, CRANES, HOISTING ENGINES, DRAGLINES, CRUSHERS and other equipment, wire or write us.

MARSH-BOTHE MACHINERY COMPANY
975 Old Colony Bldg., Chicago, Ill.

We want at once for our own use, a 15, 20 or 25-ton

Locomotive Crane

Would take crane that needs repairing. Will trade 10-ton Industrial in part. Prefer long boom and outriggers.

Industrial Service Company
Lincoln, N. J.

WANTED

Electric Locomotive

24-in. gage—3-ton—230 volt.

Charles Warner Company, Wilmington, Del.

WANTED

5—Horse-Drawn Concrete
Distributing Carts

H. E. BUNCE, Olean, N. Y.

WANTED

A 300 HP., 2200 volt, 3 phase, 60 cycle, 600 RPM, constant speed, slip ring type, 3 bearing, induction

MOTOR

Give full description, price and delivery.

COURTER ELECTRIC COMPANY
Fort Plain, N. Y.

WANTED

Second-hand Williams **Crushing and Grinding Mills.** State location, price, terms, size, style and condition of mill, and when bought.

W100 (Ill.)—Eng. News-Record, Chicago.

WANTED—400 to 500 K.W.

Engine and Generator

Engine non-condensing, 100 lb. pressure. Generator 125 volts, D.C.

Address, W948—Eng. News-Record

WANTED

Macadam and Tandem Roller

Must be in good condition. *Address* W1004—Eng. News-Record

We are **not** speculators but are prepared to buy outright

Abandoned Manufacturing Plants or Discontinued Businesses

We are **ready** to buy. Let us know what you have to sell.

FISHEL & MARKS, 3018 E. 55th St., Cleveland, O.

WANTED

LOCOMOTIVE CRANES
10 to 15 Tons

LOCOMOTIVES
Standard Gage, about 25 Tons

AIR COMPRESSORS
800 to 1500 cu. ft.

Send particulars, CASH. Contractor, W44—(N.Y.) Eng. News-Record

WANTED IMMEDIATELY

1—30-ton Locomotive Crane.
1—15- to 20-ton Locomotive Crane.
2—Concrete Paving Mixers.
10—Miles 20-lb. Rails.
4—24-inch Gage Locomotives, gasoline or storage battery.
Trenching Machine, to dig up to 4 ft. wide and 12 ft. deep.
2—Derricks and Hoisting Engines.
2—5-ton Motor Trucks.
Generator, 300-kw.

Wire what you have to offer.

HERBERT GIVIN CO., 30 Church St., New York, N. Y.

WANTED

CONTRACTORS' EQUIPMENT

of all kinds, for cash—also

PIPE AND FITTINGS

PIPE & CONTRACTORS SUPPLY CO.
3 Dover St., New York, N. Y.

WANTED

Send us a list of any

EQUIPMENT

you may have which you wish to dispose of. ALSO STATE YOUR WANTS.

Miller-Crippen Equip. Co., Inc.
423 First Nat'l Bank Bldg., Syracuse, N. Y.

Keep your eye on the Searchlight and your advertisements in it.

SEARCHLIGHT SECTION

Second Hand Equipment

FOR RENT

(Rental to be applied on purchase if so desired)

or FOR SALE

DRAG LINES

1—Model 220 Marion, can be equipped for revolving stripping shovel, shop number 2839. (Has moved about 350,000 yds.)

1—Class 14 Bucyrus, shop number 720, 60-ft. boom, 2-yd. Page bucket.

1—3 T Monighan, shop number 205, latest walking device, 70-ft. boom, 3½-yd. special Page bucket, equipped with lighting plant, built new in 1914.

STANDARD STEAM SHOVELS

70 C Bucyrus (Massachusetts boiler), shop number 1473.

70 C Bucyrus, shop number 1246.

70 C Bucyrus, shop number 1287.

Model 61 Marion, shop number 2890.

45 C Bucyrus, shop number 1297.

45 C Bucyrus shop number 1202.

Standard 70-ton Bucyrus shop number 984.

Standard 70-ton Bucyrus, shop number 868.

Standard 70-ton Bucyrus, shop number 733.

1 Class F, 45-ton Vulcan.

BOILERS—Upright Type

6—20 hp.

1—15 hp.

2—12 hp.

PLOWS

2—Marion side plows—one right and one left, shop numbers 1523 and 1525.

DRILLS

Ingersoll-Rand steam drills.

2—gas Sparta, non-tractor drills.

PUMPS

1—4½ x 2¾ Pratt Duplex.

1—4½ x 2¾ x 4 Snow.

1—4½ x 3¾ x 4 Fairbanks.

1—7 x 4 x 8 American.

1—3½ x 2 x 3 Prescott.

1—Emerson deep well.

CARS—Dump

21—12-yd. standard gage Western air dump.

12—6-yd. standard gage dump (no air).

3 and 4-yd. 36-in. gage.

1½-yd. 24-in. gage.

45—heavy duty, 4-yd., Western 36-in. gage dump cars.

REVOLVING TRACTION SHOVEL

Model 28 Marion (Ohio boiler), shop number 3424.

Model 28 Marion (Ohio boiler), shop number 3235.

1—No. 0 Thew (butt joint boiler), shop number 702.

CABLE

5 coils of 1¼ Roebling steel cable, 40% off list.

1—reel (510 ft.) 1¼ Roebling steel wire, as good as new.

BUCKETS

1—2½-yd. Page drag line.

1—2¼-yd. Bucyrus shovel bucket.

2—4-yd. Bucyrus shovel buckets.

1—1-yd. Clam Shell.

1—¾-yd. Clam Shell.

1—1-yd. Page Bucket.

LOCOMOTIVES

2—15 x 20 standard gage, saddle tank locomotives.

36-in. gage, 10-in. x 16-in., 18-ton, long tank, late model.

Vulcan

4—shop number around 1500.

Davenport

1—short saddle tank, shop number around 1000.

3—7-in. x 12-in., 24-in. gage, shop numbers 421, 1203, 1310.

2—late model, long tank, shop numbers 1133 and 1134.

SPREADER CARS

1—standard Western spreader.

1—36-in. gage Oliver.

BOILERS—Locomotive Type

1—100 hp.

1—40-hp. Nagel, practically new.

HOISTING ENGINES

1—10-in. x 12-in., double drum, cableway Lidgerwood, with boiler.

1—20-hp. Rumley traction engine.

SHEET PILING

72 pcs. Jones & Laughlin, 18 ft. long by 12 in. wide.

All of the above for immediate delivery.

Owned by us and sold under absolute guarantee of condition. Above equipment located at our yard at Clyde, Cook County, Ill., a suburb of Chicago.

CLAPP, NORSTROM & RILEY

12 and 14 South Canal St., Chicago, Illinois

Northwestern Branch: 1308 Pioneer Building, St. Paul, Minn.

RATES:

1 inch—$3.00

4 inches—$2.90 an inch

(The above rate applies to a 4-inch space in one issue, a 2-inch space in two issues, or a 1-inch space in four issues. The larger spaces following may be used up in a similar way).

8 inches—$2.80 an inch

15 inches— 2.70 an inch

27 inches— 2.60 an inch

BOILER

1—125-H.P. Locomotive

BUCKETS

15—1¼ and 1½ C.Y. Steubner Standard Self-Righting Contractors' Buckets.

1—Morrison, ¾ C.Y. Clam Shell

CARS

4—D.T. Flat Cars, 36-in. gage, 24 x 7 ft., 30,000-lb. capacity

30—½-yd. V type steel, two-way dump, 24-in. gage

40—1-yd. V type steel, two-way dump, 24-in. gage

40—Flat Cars, 24-in. gage

CONCRETE MIXERS

1—Smith No. 4, 18 cu.ft., 7 x 8 Vertical Engine, Conical Mixer

1—Austin Cube, 17 cu.ft., 4 cylinder, Buffalo Gasoline Engine No. 2239

4—Lakewood No. 28, Side Loaders, Steam Engine

SHOVEL

1—No. 1 Thew Revolving Traction Shovel, ¾ C.Y.

DOOLEY-KILLIAN CO., Inc.
26 Cortlandt Street, New York City

In Stock—Woodbridge, N. J.

2—100 H.P. Locomotive type **boilers**, 100-lb. pressure

1—100 H.P. Locomotive type **boiler**, 150-lb. pressure

1—125 H.P. Locomotive type **boiler**, 125-lb. pressure

Vertical boilers from 15 to 40 H.P.

627 cu.ft. Ingersoll-Rand belt-driven, low-pressure **air compressor**

2—3½ E Dake **swingers**

1—Counterweight **drum**

7 x 10 Lidgerwood D.D., D.C. **hoisting engine**, with boiler.

Steam Shovels, Locomotives, etc.

LINES FLYN COMPANY
30 Church St., New York City
Cortlandt 7867

SEARCHLIGHT SECTION

Second Hand Equipment

Sale of Machinery

Lincoln Park, Chicago, June 20, 1917.

Bids will be received by the Commissioners of Lincoln Park for the whole or any part of the following used machinery:

1—One 5 x 9 in. Jones-Troy Vertical Automatic **Steam Engine.**
2—One 5 x 10 in. Vertical **Steam Engine,** made by J. H. McEwen Mfg. Co.
3—One 10 x 12 in. **Hoisting Engine,** with 60 H.P. boiler, made by American Hoist & Derrick Co.
4—One Continuous Current **Generator,** 120 V-44 Amp., 5¼ Kw.
5—One **Blower Fan,** 4 ft. 6 in. in diameter.
6—One 12-in. **Sand Pump** mounted on scow.
7—One 10-ton, 3-wheel Kelly Springfield **Steam Roller.**
8—One Upright **Boiler,** 48 x 10 (as is).
9—One 5-in. **Centrifugal Pump,** with Suction Hose—made by H. Channon Co.
10—One Gear Driven **Dinkey Engine,** good for 125 lb. steam pressure.
11—One **Gas Engine,** 8 H.P.
12—One Buffalo **Steam Pump,** 5½ x 3½ x 6 in.
13—One Clayton **Air Compressor,** 6 x 6 x 7 in.
14—One Austin Cube **Concrete Mixer,** steam driven, 11 cu.ft. capacity.

Items 1 to 7 and Item 14 can be seen at the Ship Yard in Lincoln Park. Items 8 to 13 can be seen at Lincoln Park Black Soil Plant, Tendens, Ill., on the Santa Fe R.R.

Bids will be received up until Friday noon, July 6, 1917, at the office of The Commissioners of Lincoln Park, Clark and Center Sts., Chicago.

All bids must be accompanied by a certified check in the amount of 5% of the bid. The right is reserved to reject any or all bids.

JOHN C. CANNON,
Superintendent and Secretary

Air Compressors

One Rand compound BB 3, capacity 1900 ft. per minute. Operated by Hamilton-Corliss Engine. Designed to operate with 150 pounds steam, compressing air to 90 or 100 pounds. Steam cylinder 16 x 30 x 30, air cylinder 28 x 17½ x 30.

One Sullivan class WB 2, capacity 1843 ft. per minute, simple steam and compound air. Steam cylinder 24-in., high pressure air cylinder 26 in., low pressure air cylinder 16½ in. Stroke 30 in. **Both in excellent condition and offered at extremely low prices.**

United States Equipment Company
208 So. La Salle Street
Chicago, Ill.

Cooper Corliss Cross Compound Heavy Duty Engines

We have for prompt delivery:

Three cross-compound engines, 14 x 30 x 36, serial number 1867-68 and 69. Hp. from 400 to 450, R.P.M. 125 at 150 lb. steam. Weight of engine, 87,000 lb.

Three low pressure air compressors direct connected to Cooper Corliss Engines, capacity 3890 cu.ft. Pressure from 30 to 50 lb.

One High pressure air compressor with Duplex Bass Corliss Engine and cross-compound steam cylinders, simplex duplex air cylinders, Steam cylinder high pressure 14 x 36-in., low pressure 26 x 36-in., air cylinder 14¼ x 36-in. stroke, capacity 920 cu.ft. air per minute at 85 R.P.M. at 100 lb. air pressure. Serial number of air cylinder 7399-7400.

The above at sacrifice prices to quick buyers.

Marine Metal & Supply Company
167 South Street, New York City

Hydro-Electric Power Equipment For Sale

1—350 B.H.P., 900 R.P.M., **turbine** water wheel, including flywheel and 28-in. butterfly valve.
1—Size "O" Hydraulic **Governor.**
1—200 K.W., 2300 volt, 900 R.P.M., 60 cycle, 1—3 phase **Alternator.**
120 volt, direct current, direct connected **Exciter.**
1—3 phase generator **Panel**
1—Bracket type Tirrill **Regulator.**
2—125 K.W. 2300-20,000 volt step-up, 60 cycle, O.F.W.C. **Transformers.**
2—125 K.W., 20,000-440 volt step-down, 60 cycle O.F.W.C. **Transformers.**
3—10 K.W., 440-110 volt lighting **Transformers.**
1—2 K.W., 2300-110 volt lighting **transformer.**
1—0.6 K.W., 2300-110 volt lighting **transformer.**
1—75 H.P., 60 cycle, 3 phase, 680 R.P.M., 440 volt induction **Motor,** with potential starter.
1—20 H.P., 60 cycle, 3 phase, 1130 R.P.M., 440 volt induction **Motor,** with potential starter.
5—Cell, 20,000 volt Aluminum Lightning **Arresters.**

This appartus is all in good order, practically good as new as has been run less than four weeks. It is a complete hydro-electric power plant.

Above with some other good as new material is for sale. This apparatus is in Idaho.

For prices and further particulars write

W. H. CARLETON, Leigh, Nebr.

FOR SALE

Three Steam Power Plants

one 120 K.W., one 150 K.W., and one 200 K.W., all 250 volt D.C., complete with boilers, engines, generators, switchboards, pumps and piping systems. In excellent condition and can be inspected while now running. Bargains to quick buyers. Specifications and prices upon request.

AMHERST COAL COMPANY
Huntington, W. Va.

Generating Unit

FOR SALE

Erie Engine about 150 to 200 H.P., also belt connected Westinghouse Generator, 120 KW., A.C., 60 cycle, 2 phase. In good order, but too small for owner's present use.

Address "Engine"
FS-97 (Phila.) Eng. News-Record, Phila

AIR COMPRESSORS

Ingersoll 2-stage, 1650 ft.
Ingersoll Straight Line, 1500 ft.
McKiernan Straight Line, 543 ft.
Complete with receivers.
Chas. F. Avery, 45 Broadway, N. Y. City.

FOR SALE

AIR COMPRESSOR

One Chicago Pneumatic belted about 137 feet free air per minute at 100 lb. pressure. Excellent condition. Size 9 x 11.

F. MAYER
1601 Monadnock Bldg., Chicago, Ill.

AIR COMPRESSORS 100 lb.

2600 cu.ft. Ing.-Rand Imp. Ty. X, belted.
1490 cu. ft. Ing.-Rand belted 200 H.P. motor
2—1050 cu.ft. Chic. Pneu., steam driven.
707 cu.ft. Norwalk, double tandem, steam.
431 cu.ft. Clayton duplex, steam, two-stage.
310 cu.ft. Ingersoll-Rand, N.E. 1 belted.
130 cu.ft. Chic. Pneu., tandem, steam.
45 cu.ft. Bury, 6 x 6 in. belt driven.
A. G. Schoonmaker & Sons, 25 Church St., N. Y.

Little "WANT" cards bring big results in The News-Record

SEARCHLIGHT SECTION

Second Hand Equipment

POWER MACHINERY

HOISTS—Electric Driven

2—Single drum Lidgerwood single drum mine hoists, drums 30 in. dia. x 24 in. face x 4 in. flanges, gear ratio 18:126, geared to Westinghouse type 10-K motors, series wound, with R-32 controllers with grid resistance. One motor 220 volts 525 RPM., other 550 volts, 878 RPM.

3—Lidgerwood single drum mine hoists, drums 30 in. dia. x 24 in. face x 4 in. flanges, direct geared to General Electric motors, type IQC, form M, 2 ph., 60 cy., 220 volts, slip ring, 830 RPM., complete with T-10 controller.

5—Lidgerwood single drum mine hoists, drums 30 in. dia. x 24 in. face x 4 in. flanges, direct geared to Westinghouse motors, type 10-K, series wound, 52 hp., 220 volts direct current, 700 RPM., complete with R-32 controllers and grid resistances.

Direct Current Motors

250 VOLTS

1—500	H.P.	Thompson-Ryan	305 R.P.M.
1—500	"	Ft. Wayne	380 "
1—350	"	Ft. Wayne	450 "
1—310	"	Bullock	350 "
1—200	"	Westinghouse	560 "
1—180	"	Westinghouse	450 "
1—170	"	Crocker-Wheeler	480 "
2—150	"	Crocker-Wheeler	450 "
1—110	"	Westinghouse	900 "
1— 90	"	Ft. Wayne	660 "
6— 90	"	Crocker-Wheeler	660 "
1— 75	"	Crocker-Wheeler	1100 "
1— 55	"	Allis-Chalmers	550 "
1— 50	"	Triumph, IF	80 "
4— 50	"	Crocker-Wheeler	625 "
1— 40	"	Gregory	600 "
1— 40	"	Triumph, IF	700 "
1— 32	"	Crocker-Wheeler, CM	1000 "
1— 30	"	General Electric	610 "
3— 30	"	Westinghouse	1700 "
1— 30	"	Westinghouse, S	1025 "
3— 30	"	Northern	610 "
1— 30	"	Allis-Chalmers	575 "
1— 30	"	Allis-Chalmers	950 "
1— 30	"	Crocker-Wheeler	900 "
4— 25	"	Crocker-Wheeler	750 "
1— 25	"	Sturtevant	800 "
1— 20	"	General Electric, RC	1150 "
1— 15	"	Holzer-Cabot	1150 "
1— 15	"	Crocker-Wheeler	750 "
17— 15	"	Crocker-Wheeler	800 "
3— 15	"	National	740 "
1— 12	"	American	1170 "
1— 10	"	General Electric, CE-B	1375 "
1— 7½	"	C & C	1200 "
2— 6	"	Westinghouse, S	1465 "
2— 5	"	General Electric	360 "
2— 5	"	Sprague Lundell	1050 "
3— 5	"	Westinghouse	390 "
1— 5	"	Northern	1200 "
1— 5	"	General Electric	1725 "
1— 4½	"	General Electric, CE-B	700-1500 "
1— 3½	"	Westinghouse	800 "
3— 3	"	Westinghouse, S	1800 "
1— 3	"	Crocker-Wheeler, CCM	1000 "
1— 3	"	Westinghouse	975 "
1— 3	"	Crocker-Wheeler, CCM	900 "
1— 2	"	Crocker-Wheeler, CCM	975 "
1— 2	"	Triumph	1750 "
1— 2	"	Gibbs	1200 "
2— 1½	"	Crocker-Wheeler, CM	1800 "

Alternating Current Motors

60 CYCLE

No.	*H.P.*	*Manufacturer*	*Type or Form*	*Phase*	*Voltage*	*Speed*
1	900	Westinghouse (2 bearing)	CCL	3	2200	690
1	800	Westinghouse (3 bearing)	C	3	440	382
1	500	Canadian Westinghouse (3 bearing)	CCL	3	500	435
1	250	General Electric (2 bearing)	L	3	440	514
1	200	Westinghouse	CS	3	440	580
1	200	General Electric (Slip Ring, 3 bearing)	M	3	440	600
1	200	General Electric (3 bearing)	L	3	440	600
1	200	General Electric (2 bearing) New	M	3	220	600
1	150	General Electric (Slip Ring) New	M	3	2200	450
1	150	General Electric (Slip Ring) New	M	3	440	4450
3	150	Westinghouse (3 bearing)	CCL	3	440	580
1	150	Allis-Chalmers (Slip Ring) New	ANY	3	440	600
1	150	Westinghouse (Slip Ring)		3	550	720
1	150	General Electric (Slip Ring)	M	3	440	720
1	150	Westinghouse	CW	3	440	720
1	150	General Electric (2 bearing)	K	3	440	720
3	100	Westinghouse (Slip Ring)	Variable Speed	3	440	600
1	100	General Electric	L	3	440	600
1	100	General Electric	M	3	2200	720
1	100	General Electric	K	2	220	720
1	100	General Electric	L	3	440	1200
1	85	General Electric	K	3	2080	720
1	75	Burke	K	2	220	360
1	75	General Electric	L	3	440	514
5	75	Westinghouse (Slip Ring)		3	550	1200
1	75	Westinghouse	CCL	2	2200	1200
1	52	General Electric (Slip Ring)	IQC-M	2	440	900
1	50	Westinghouse	CCL	3	440	850
3	50	Allis-Chalmers (Slip Ring) New	ANY	3	220	900
1	50	Fairbanks-Morse	B	3	220	900
1	50	General Electric	K	2	220	900
1	50	Fort-Wayne	C vertical	2	220	1800
1	40	Allis-Chalmers		3	220	850
2	40	Westinghouse	CCL	3	440	850
2	40	Allis-Chalmers		2	220	850
1	40	Westinghouse	CCL	3	220	850
1	40	General Electric	K	2	220	900
1	40	Canadian Westinghouse	CCL	3	220	1120
2	35	General Electric	K	2	220	900
1	35	Allis-Chalmers		3	220	1200
1	30	General Electric	S	3	220	900
1	30	Westinghouse	C	2	400	1120
1	30	Allis-Chalmers (Slip Ring)	ANY	3	550	1160
1	30	Westinghouse	CCL	3	200	1200
1	30	Lincoln (Slip Ring) New		3	220	1200
1	25	General Electric		2	200	900
2	25	General Electric		3	500	1740
3	20	Westinghouse	CS	2	220	685
1	20	Wagner		2	220	850
2	20	Westinghouse	C	2	400	1120
1	20	Allis-Chalmers		2	220	1130
7	20	Fairbanks-Morse	KBV	3	220	1140
1	20	Allis-Chalmers (Slip Ring)		3	550	1160
1	20	General Electric	K	2	220	1200
1	20	Lincoln	"11"	3	220	1200
1	20	General Electric	K	3	440	1200
1	20	General Electric		2	220	1800
1	15	Crocker-Wheeler		3	220	565
1	15	Allis-Chalmers		3	440	680
1	15	Westinghouse	HF	3	220	850
1	15	Allis-Chalmers		3	440	860
2	15	General Electric	ITC-M	3	220	900
1	15	Allis-Chalmers		3	440	1130
1	15	Westinghouse	CS	2	440	1150
1	15	Allis-Chalmers (Slip Ring)	ANY	3	550	1160
3	15	Crocker-Wheeler		3	550	1200
1	15	Westinghouse	CCL	3	440	1200
1	10	Allis-Chalmers		3	440	680
1	10	Westinghouse	CCL	2	440	1120
14	10	Westinghouse	CS	2	220	1140
6	10	Ft. Wayne (back geared) (Slip Ring)	MA	3	220	1200
1	10	General Electric	KT	3	550	1200
2	10	General Electric	K	3	220	1200
2	10	Westinghouse	CCL	3	200	1200
1	10	Fairbanks-Morse	B	3	220	1200
1	10	General Electric (Vertical)	C	3	440	1800
1	10	Allis-Chalmers		3	220	1800
1	10	Fairbanks-Morse	B	3	220	1800
1	7½	General Electric	L	2	220	1200
1	7½	Fairbanks-Morse	B	3	220	1200
3	7½	Westinghouse	CCL	3	200	1700
1	7½	Fort Wayne		3	220	1800
1	7½	Western Electric	KT-180	3	220	1800
2	7½	General Electric	C	3	220	1800
1	7½	General Electric	C	2	220	1800
1	6	General Electric (Slip Ring)	M	2	220	900
1	5	General Electric		2	220	1800
1	5	Fort Wayne		3	110	1800
1	5	General Electric	C	3	440	1800
2	5	General Electric	C	2	220	1800
1	4½	Lincoln		2	220	720
1	4	General Electric	K	3	220	900
1	3	Westinghouse	CS	3	550	1200
9	3	General Electric	C	3	440	1800
1	1	Triumph		2	115	1700
1	1	General Electric	CG	3	220	1800

MAC GOVERN & COMPANY, INC.

114 Liberty Street, New York

SEARCHLIGHT SECTION

Second Hand Equipment

HOISTS

2—Thomas Elevator Co., S.D. double cage Mine Hoists, 50 in. drums, 24 grooves 1¼ cable, direct geared to 82 H.P. G. E. slip ring motor, 220 or 440 Volts, 3 ph., 60 cy., 514 rev.

A. C. UNITS

2—100 K.W. G. E. Curtis Turbo Units, any voltage, 3 ph., 60 cycles, 3600 rev., 1 cond. and 1 non-cond.

1—250 K.W. Westinghouse, 2300 Volt, 3 ph., 60 cycles, A.C. Generator, direct connected to 18 x 36 Corliss engine.

BOILERS

150 H.P. Heine, 160 lb.
225 H.P. Stirling, 150 lb.
2—250 Stirling, 140 lb., 2—420 H.P. Geary, 175 lb.

ENGINES—MOTORS—D.C. and A.C. UNITS.

HAROLD R. WILSON MACHINERY CO.
417 Pine Street, St. Louis, Mo.

Upright Boilers For Sale

One Manning Type Boiler, 180 H.P., 60 in. diameter Shell, 125 lb. W. P.
One Straight Shell Boiler, 150 H.P., 72-in. diameter x 13 ft. 6 in. high, 125 lb. W. P.

Boilers fitted with all castings and trimmings.

NEW ENGLAND IRON WORKS COMPANY
365 Summer St., Boston, Mass.

CRUSHERS AND BOILERS

1—No. 5 "Gates" style K gyratory
1—No. 4 "McCully" gyratory
1—No. 00 "Gates" style D gyratory
1—No. 15 "Champion" 11 x 22 in. jaw, with elevator, buckets and screen, mounted on wheels
1—9 x 15 in. "Fraser-Chalmers" jaw
1—No. 4 "Champion" 9 x 15 in. jaw, with elevator, buckets and screen, mounted on skids
1—No. 4 "Champion" 9 x 15 in. jaw, with elevator and screen mounted on wheels
1—No. 3 "Champion" 7½ x 13 in. jaw, with elevator and buckets mounted on goose neck truck
1—11 x 16 in. "Reliance" jaw on truck with elevator and buckets
1—Set crushing rolls 25 x 16 in. "Mosser"

COMBINED BOILERS AND ENGINES

1—20 H.P. "Farquhar" on wheels
1—18 H.P. "Farquhar" on wheels

BOILERS

100 H.P. "Ames" Empire type
90 H.P. "Ames" locomotive
48 in. x 10 ft. "Nagle" vertical
49 in. x 8½ ft. "Erie City" vertical
48 in. x 7 ft. "O & S" vertical
36 in. x 8 ft. "International" vertical
36 in. x 5 ft. "O & S" vertical
30 in. x 7 ft. "Sotter Bros." vertical

L. F. SEYFERT'S SONS, INC., 437 N. 3rd Street, Philadelphia, Pa.

BOILERS

Locomotive Type

One 20-hp. Three 50-hp. One 70-hp. Mass. One 80-hp. One 100-hp. Two 125-hp.

Vertical

Two 12-hp. One 15-hp. One 20-hp.

Economic

One 80-hp. Erie City return - tubular Economic boiler on skids.

Return Tubular

Three 125-hp. One 100-hp.

United States Equipment Company

210 So. La Salle Street
Chicago

Private Equipment

2¼ miles 16-lb. portable 24-in. gauge track.
2 miles 20-lb. Koppel portable 24-in. gauge track.
2 locomotives.
1 direct-current generating unit.
3300 ft. 1-in. transmission plow steel rope.
1600 ft. 8-in. Heltzel concrete forms.
5 Maney scrapers, 1 yd.
1 Avery traction engine with roller attachment.
1 Monarch tandem steam roller, 5 ton.
1 Portable Case 20-H.P. engine.
1 National elevating grader.
1 Ransome paving mixer, 9 cu.ft.
1 Foote gasoline mixer, 10 cu.ft.
7 dump wagons, 1½ yd.
2 tractors (steam and gasoline).
6 Troy reversible spreaders, 4 yd.
5 Port Huron reversible steel spreaders, 6 yd.
114 Pieces Lackawanna sheet piling, 7-in. x 14-ft.

DANIEL B. STRALEY,
Crown Point, Ind.

Three Phase, 60 Cycle A. C.

MOTORS

FOR SALE

	H.P.		Speed
2	12	Fairbanks-Morse, 220 or 440 v., slip-ring, variable speed	1200
1	12	Gen. Elec., form K., 110 v	720
1	12	Gen. Elec., form K, 550 v	720
2	15	Westinghouse, 220 or 440 v.	1750
2	15	Watson, 220 or 440 v., slip-ring, variable speed	1720
3	15	Fairbanks-Morse, 220 or 440 v., slip-ring, constant speed	1200
1	15	Westinghouse vertical, 220 or 440 v.	1135
2	15	Allis-Chamlers, 220 or 440 v	860
2	15	Westinghouse, 220 or 440 v	850
1	15	Westinghouse, elevator motor, with drum-type reversing switch, 220 or 440 volt	720
4	20	Westinghouse, 220 or 440 v	1750
1	75	General Electric, form K, 220 v	720
7	75	Allis-Chalmers, 220 or 440 v., vertical shaft	490
7	75	Allis-Chalmers, 220 or 440 v	490

We Buy for Spot Cash
Rent, Sell, Exchange and Repair

Send for our "*Monthly Bargain Sheet*" showing net prices on *Second-hand* electrical motors and generators. Overhauled "like new."

Largest stock of electrical machinery (second-hand) in America.

GREGORY ELECTRIC CO.

Boiler and Engine For Sale

60 H.P. Boiler and 75 H.P. "Frost" Steam Engine. Boiler, Murry H. T. Type. Used but six months, complete with all fittings.

COUNTY SUPPLY CO.
Box 219 Sioux City, Ia.

FOR RENT—FOR SALE

Portable Boilers

Hoisters, Air Compressors, Concrete Mixers, Centrifugal Pumps, Diving Outfits, Rock Drills, Derricks, Pile Drivers and General Contractor's Equipment, both Steam and Electrically Driven.

MARVIN BRIGGS, Inc. 167 Sixth St.
Tel. South 5471 Brooklyn, N. Y.

FOR SALE—4—300 H.P. Sterling

WATER TUBE BOILERS

Like New

5 HOISTING ENGINES

O. R. Whitney, 39 Cortlandt St., N. Y. City

New Hoisting Engines and Boilers

1—6½ x 8 D.C., D.D., Hoisting Engine
1—10 H.P. Electric Hoist, 220 V., D.C.
2—12 H.P., 1—20 H.P., 1—40 H.P. Vertical Boilers, all new, full factory guarantee

H. W. DYAR, 140 S. Dearborn St., Chicago, Ill.

FOR SALE

One new 3½ S. B. left-hand Dake

Swinging Engine

$225. This engine has never been used and is located at Lexington, Ky., ready for immediate shipment.

Armstrong Engineering Co.
Taylorville, Ill.

SEARCHLIGHT SECTION

Second Hand Equipment

First-Class Equipment and Immediate Shipment

This valuable combination is hard to find at the present time, and you should be one of the many who have taken advantage of it.

STEAM SHOVELS AND EXCAVATING MACHINERY

Quantity	Make	Description
1	Bucyrus	Model 70-C steam shovel, with 2¼ cu.yd. dipper No. 1327, built 1910, all overhauled and in first-class condition
1	Marion	Model 20 steam shovel with standard boom and 1¼ cu.yd. dipper, No. 1699, built 1907, all overhauled
1		Short tunnel boom and dipper arm with 1 cu.yd. dipper for above shovel, never used
1		Short tunnel boom and dipper arm, 1 c.y. dipper for above shovel
1	Atlantic	Steam shovel with 2¼ c.y. dipper, built 1910, Shop No. 41999
1	Bucyrus	Model 70-C steam shovel with 2¼ c.y. dipper No. 1685, complete and in good working condition

LOCOMOTIVES

13	Porter	36-in. gauge, saddle tank locomotives, 10 x 16, all overhauled and in good working order
1	Davenport	36-in. gauge, saddle tank locomotive, 11 x 16, all overhauled and in good working condition, Shop No. 833, built 1908

CARS

40		Standard gauge flat cars 60,000 capacity, some of them in first-class repair, will pass R. R. inspection, others good for private use, with slight defects, which will not pass R. R. inspection
225	H.S.Kerbaugh	36-in. gauge 4 c.y. 1-way dump cars, all overhauled
4	H.S.Kerbaugh	36-in. gauge 1.3 c.y. rotary dump cars (revolving heading cars), new

AIR COMPRESSORS AND RECEIVERS

1	Ingersoll-Rand	Class "A" compressor 24 x 24½ x 30 in. Shop No. 2855, in present working condition
1		Set compressor plant fittings and piping
4	Ingersoll-Rand	Air receivers 54 in. x 12 ft., built 1911
1	Ingersoll-Rand	Air receiver 54 in. x 12 ft., built 1913 (all receivers as good as new)
2	Laidlaw-Dunn-Gordon	Air compressors 25 x 15 x 18, belt driven, without motors, Shop Nos. 21744-5, built about 1910, received new air end 1914, in very good working condition
1	Ingersoll-Rand	Class "A" compressor 24 x 24½ x 30 in., Shop No. 6353, built about 1904
1	Ingersoll-Rand	After Cooler 57 in.

ENGINES

1	Fairbanks	Gas engine, 8 H.P., vertical, mounted on wheels, with 2 fly wheels and 2 pulleys, with gasolene tank and water tank, Shop No. 9471, in good repair
1	Nagle	Stationary engine, 8 x 12, Shop No. 11426
1	Nagle	Stationary engine, 10 x 12, Shop No. 2676
1	Woodbury-Booth	Stationary engine, 9 x 16, 35 H.P., no number, complete, in good repair
1	Woodbury-Booth	Stationary engine, 8 x 14, 30 H.P., no number, complete, in good repair
1	Brownell	Stationary engine, horizontal, 11 x 14, 52 H.P., built 1903, Shop No. 2522, complete, in first-class repair
1	Chandler-Taylor	Stationary engine, 11 x 15, 60 H.P., complete, Shop No. 5518
1	Russell	Stationary engine, automatic, 11 x 14, 65 H.P., complete, Shop No. 01273
2	Westinghouse	Stationary engines, automatic, 10 x 9, 65 H.P., Nos. 2688-89, complete in all parts, in strictly first-class repair
1	Mundy	Hoisting engine, 7 x 10, D.D., D.C., link reverse, skeleton, Shop No. 2160
2	Lambert	Hoisting engines, 7 x 10, D.D., D.C., skeleton, built 1900-01, Shop Nos. 1928-9 and 2544, in first-class repair
1	Lambert	Hoisting engine, 7 x 10, D.D., D.C., skeleton, Shop Nos. 2371-2 and 1990, in fair condition
1	Lidgerwood	Hoisting engine, 7 x 10, D.D., D.C., skeleton, built 1904, Shop No. 22812
3	Lidgerwood	Hoisting engines, 8½ x 10, D.D., D.C., skeleton, Shop Nos. 21868, 21861, 14669
2	Flory	Propelling engines, 8½ x 10, D.C., skeleton, Shop Nos. 4598 and 5477
1	Lidgerwood	Hoisting engine, 7 x 10, D.D., D.C., boiler mounted
1	Dake	Swinging engine No. 3½, single drum E-2
1	Barber	18 H.P. D.C. gas engine, not complete
2	Flory	Hoisting engines, 50 H.P., No. 372, spec. compound geared, fitted with link motion, D.C., S.D., 48 x 24 in., Shop Nos. 4524-5

ELECTRICAL PLANT AND EQUIPMENT

4	Ingersoll-Rand	Electric wagon rock drills, Nos. 14, 25, 26 and 27, operated by motors, 3 phase, 60 cycle, 220 volt.
17	Ingersoll-Rand	5F electric pulsator rock drills, with pulsator, controller and tripods, 5 H.P. motors, 3 phase 60 cycle, 220 volt
1	Buffalo	Triplex pump, 11 x 10 in., with 75 H.P. motor, 3 phase, 60 cycle, 220 volt.
2	Buffalo	Triplex pumps, 5½ x 6 in., with Westinghouse 7½ H.P. motor, 3 phase, 60 cycle, 220 volt
1	Morris	Two stage service pump, 6-in. suction, 4-in. discharge, direct connected to G. E. 25 H.P. motor No. 425982, type I-2-25-1500-K 220 volt, 25 cycle
1	Morris	Ditto, with motor No. 145983
1	Morris	Vertical 3-in. centrifugal pump, direct connected to G. E. vertical 5 H.P. motor No. 425985, type I-2-5-A-1500, form K, speed full load 1450, amps. 14, volts 2200, cycles 25
1	Morris	Ditto, with motor No. 425986
2	Flory	Cableway engines, with 300 H.P. motors, 3 phase, 60 cycle, 440 volts, with 2¼-in. main cables, 2000 ft. long, with carriage, fall block, head tower sheaves, fall rope carriers, top tower castings, but without hoisting or hauling lines
16	Flory	75 H.P. electric hoists, 2 drum, with 11 H.P. electric swinging winches, motors 3 phase, 60 cycle, 220 volt
2	Williamson	75 H.P. electric hoists, 2 drum, with 7½ H.P. electric swinging winches, motors 3 phase, 60 cycle, 220 volt
5	MaineElec.Co.	75 H.P. electric hoists, 2 drum, with 7½ H.P. electric swinging winches, motors 3 phase, 60 cycle, 220 volt
1	Flory	4 drum electric hoist with 22 H.P. motor, 3 phase, 60 cycle, 440 volt
1	Flory	2 drum electric hoist with 22 H.P. motor, 3 phase, 60 cycle, 440 volt
1	Sheppard	Monorail hoist No. 1949, capacity 4 tons, with twin trolley motors, Westinghouse No. 711802 and hoisting motor G. E. No. 294254, 3 phase, 60 cycle, 220 volt
3	Allis-Chalmers	100 K.V.A., 60 cycle, single phase transformers, primary 2200 volt, secondary 240-280 volt
4	Gen. Elec.	667 K.V.A., 60 cycle, single phase transformers, type W C, form F.L., primary voltage 7633-22900-39600, Y connection, secondary voltage 2200 volts, each
1	Gen. Elec.	10 K.W. transformer, 60 cycles, volts 1100-2200-110-220
1	Gen. Elec.	Transformer, type H, 25-10 K.W., 2080-2300-110-115, for lighting and operating gen. set, Shop No. 82163
2	Westinghouse	48 K.W., D.C. generators, 500 volts, amps. 96, R.P.M. 975, complete with switchboard, volt-meter and ammeter, Shop Nos. 315362-63
1	Gen. Elec.	10 H.P. motor No. 341465, type M.I.C., form B, 110 volt, 3 phase, 25 cycle, 1500 R.P.M., for rotrex pump
1	Gen. Elec.	30 H.P., D.C. motor, type MP4, form H, amp. 50, R.P.M. 1150, volts 500, Shop No. 64536
1	Gen. Elec.	15 H.P. motor, type T.I.T.C., 5009, form M, amps. 42, phase 3, cycles 60, volts 220, Shop No. 228862, with controller
1	Gen. Elec.	10 H.P. induction motor, type I-4, form K, 10 A 2200 volt, 750 R.P.M., for vertical priming pump, Shop No. 296305
9	Gen. Elec.	Type F, form K-20 oil switches, 2500 volt, 100-125 A., 3 pole
1	Gen. Elec.	Type F, form K-20 oil switch, 2500 volt, 300 amp., 3 pole
1	Gen. Elec.	Switchboard
1	Ransome	1 cu.yd. concrete mixer with 35 H.P., 3 phase, 60 cycle, 220 volt motor
1	Gen.Elec.	Induction motor No. 416954, type R 122, form G, 2 H.P., 1 phase, 25 cycle, 25-12.5 amp., 1480 R.P.M., 110-220 volts
2	Browning	15 H.P. motors, D.C., 57.5 amp., 1045 R.P.M., 220 volts, Shop Nos. 8356 and 8380

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Sewer and Water Works Trenchers.
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13 miles of 70-lb. relaying rail.
20 miles of trolley and feed copper wire, 2/0 and 4/0 plain
All the power house equipment consisting of one Hamilton Corliss Engine, 200 h.p., belted to Westinghouse Generator, 250 Kw., 575 volts, 435 amperes, 450 r.p.m.
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Switch Boards, Volt Meters, and Ammeters
Boiler Feed Pumps, Heaters, etc.
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All the Trolley Cars, Box Cars, Flat Cars, etc.

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Wilbraham Rotary 24-in. suction, 24-in. discharge, direct connected to Wilbraham engine.

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Several belt-driven centrifugal, also single and duplex steam pumps.

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1—9 x 10 D.C., D.D. Skeleton Hoist
2—7 x 9 Crane Elevator Hoists
1—5 x 6 D.C. Carlin Swinging Engine
1—1-bag Austin Paver, steam equipped
1—1½-yd. Hayward "E" Clam Shell Bucket
1—1-yd. Williams Clam Shell Bucket
1—1-yd. Hayward Orange Peel Bucket
1—600-gal. Studebaker Sprinkler
1—9 x 15 Western Crusher on wheels
1—12-ton Portable Bin, Elevator and Screen
1—5-ton Iroquois Tandem Roller
1—10-ton Iroquois Macadam Roller
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1—Gallon Scarifier
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with skimmer scoop. First-class condition.

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2—1-yd. Hayward orange peel
6—3-yd. battleship, 7 x 4 x 3 ft. deep, ⅜-in. plate, Steubner
4—1½ yd. Steubner Self Righting.

CARS

2—75-cu.ft. Steubner V-shape all-steel side dump, 5 ft. 9 in. wide, 2 ft. 3 in. high, wheel-base 42 in., dia. wheels 16 in., 30-in. gauge
8—1½-yd. Pettler, 24-in. gauge
15—4-yd. Western dump, 36-in. gauge

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1—Ingersoll-Rand 28 x 17 x 24 Imperial (type 10-2) belt driven, complete with all fittings and fitted with Corliss inlet valves and No. 6 outlet valves; size of flywheel, 54 in. x 10 ft.; good for about 2600 ft. per minute at 100-lb. pressure
1—McKiernan steam-driven D.C. air, 10 x 12 in.; shop No. 1616 capacity about 150 cu.ft.
1—Franklin (Chicago Pneumatic Tool Co.), 10½ x 11½ in., D.C. to 30-H.P. Milwaukee motor No. 3730, compressor No. 1001, 220 V., capacity 150 cu.ft.
1—Fairbanks D.C. gas line-driven portable, with receiver; good for about 150 cu.ft.
1—Foster & Hosler air, D.C. to 6-H.P. gas engine; capacity 35 cu.ft. portable

COMPRESSOR PLANT (near New York City)

Complete plant including 4 Mosher Watertube Boilers, 150 to 200 H.P. each. 3 Class H. high pressure Air Compressors, 1400 cu.ft. each. 3—30 K.W. 110 V. Generators, Condensers, Pumps, Air Receivers, etc.

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1—10 x 18 Reliance jaw
1—8 x 14 Reliance No. 2425 Portable, complete with bins, screens and 18-ft. elevators, connected to No. 1 Bates & Edmond 18-H.P. gas No. 22484 type B, with magneto, clutch, and 26 x 9½ x 10 pulley

ENGINES

5—7 x 7 vertical steam (Orr & Sembower)
1—8 x 8 vertical steam (Orr & Sembower)
1—4 x 5 vertical steam

HAMMERS

1—No. 2 Arnott steam
1—No. 4 Arnott steam
9—Drop hammers, various sizes, weights 2500-3600 lb.

HOISTS

1—40-H.P. Lambert S.D. electric No. 9022; length, 5 ft. 9 in.; width, 5 ft. 0 in.; dia. drum, 28 in.; width bet. flanges, 27 in.; grooved for ¾-in. rope, D.C. to Westinghouse Motor No. 798740, 220 V., 525 R.P.M., 180 amp.
1—30-H.P. Maine Electric Co. D.D., No. 1623, with swinging gear D.C. to Maine motor, 220 V., 15 Kw.
1—10-H.P. Lidgerwood Electric Hoist, D.D., 2-phase, 60-cycle 220 volt, A.C.

HOIST ENGINE

1—60 H.P. Lambert Electric Double Drum and Swinging Gear, 220 volt, D.C.

BOILER

1—50 H.P. Lidgerwood Upright

Note: See also Motors on Pumps

MOTORS

1—20-H.P. Westinghouse, 220-volt, D.C., Type S.K., 900 R.P.M. (New)
1—13-H.P. Westinghouse Type S., 220-V., D.C., 630 R.P.M.
3—1½-H.P. Crocker-Wheeler Type C.M., 220-volt, D.C., 1250 R.P.M.
1—10-H.P. Westinghouse Type S., 220-volt D.C., 1325 R.P.M.

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1—10 x 16 Porter, 36-in. gauge, 18 tons

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3—14 x 7 x 14 National, plunger type, Nos. 16447—16502—16703
1—18 x 7 x 14 National, plunger type, No. 16860
2—10 x 5 x 12 National, plunger type, Nos. 16612—16613
1—6 x 3½ x 10 National, plunger type, No. 16800
1—5 x 3 x 10 National, plunger type, No. 16799
1—6 x 5½ x 7 Blake, steam, duplex, 5-in. suction, 4-in. discharge, No. 30840
1—2-in. Douglas, double plunger
1—4-in. suction, 4-in. discharge, Morris Machine Works centrifugal No. 21171
1—7½ x 7½ x 6 Worthington duplex, No. 152807
1—6 x 7½ x 6 Worthington duplex, No. 13620
1—3-in. Worthington turbine, No. 4742, single stage, no motor
1—3-in. Worthington turbine, No. 4488, 3-stage, D.C. to Westinghouse 50-H.P. motor, 220 V., 131.4 amp., 3-phase, 60-cycle, 1700 R.P.M., style No. 126745, serial No. 724400; complete
1—3-in. Worthington turbine, No. 5093, 3-stage, D.C. to Westinghouse 50-H.P. motor, 220 V., 115.2 amp., 3-phase, 60-cycle, 1700 R.P.M. style No. 126743, serial No. 810743; complete
1—2-in. Worthington turbine, No. 4505, 3-stage, D.C. to Westinghouse 30-H.P. motor, style CCL, 220 V., 2-phase, 60-cycle, 1700 R.P.M. style No. 121804, serial No. 801444; complete
1—7½ x 7 x 10 Worthington duplex, No. 115960, 6-in. suction, 4-in. discharge
1—10 x 12 x 10 Worthington duplex, No. 112100, 10-in. suction, 8-in. discharge
4—3-in. Edson diaphragm

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1—40-ton Marion, standard gauge, No. 1534
1—Model O Vulcan revolving traction, No. 1702, with a new ¾-yd. dipper

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1—"Climax" road scraper
1—3-ton "Enterprise" farm roller

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1—5 ton Differential.

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375 ft. 12-in. Standard steel pipe with screw flanges
1—Ajax D24 Ingersoll-Rand Drill Sharpener
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1—1-yard Page Drag-line Bucket
1—2-yard Page Drag-line Bucket
1—¾-yard Slack-line Outfit, Complete

Cars

30—4-yard Western 36-in. gauge cars
35—1½-yard Western 24-in. gauge cars
20—12-yard Western standard-gauge cars
30—2½-yard 36-in. gauge quarry cars
50—80,000 lb. capacity gondolas
200—60,000 lb. capacity gondolas

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1—Ingersoll-Rand Imperial type X-B-2, cap. 2400 ft., belt-driven
2—Ingersoll-Rand 2-stage, cap. 650 ft., with or without motors
1—14 x 12 Laidlaw-Dunn-Gordon belt-driven machine
1—Sullivan 2-stage steam-driven, cap. 550 foot
1—Sullivan 2-stage steam-driven, cap. 1800 ft.
Lot of others

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1—No. 3 Gates
1—No. 4 Austin
1—No. 5 McCully
1—No. 5 Austin
1—No. 6 Gates, style "K," complete plant
1—No. 6 Gates "D" crusher
1—No. 7½ Austin, complete plant
1—No. 8 McCully
2—18 x 36 Jaw Crushers
Elevators, Screens, Friction Hoists, etc., can be furnished with all the above or separately
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1—White traction, 40 ft. boom, 1-yard bucket

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2—3-drum 8¼ x 10, with or without boilers
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1—6¼ x 18 D.C., D.D. hoist, with boiler
1—8¼ x 10 Lidgerwood

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2—10 x 16—36-in. gauge dinkies, just through shop
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1—7 x 12—24-in. gauge, almost new
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Model 45 Bucyrus
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Model 18 Marion-Osgood

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2 Keystone shovel

DUMP CARS
30—4-yd. 36-in. Western

LOCOMOTIVE
15 x 24 standard gage, saddle tank

HOISTING ENGINES
8 x 12 D.C., D.D., Mundy engine and boiler
7 x 10 D.C., D.D., engine with boiler

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3—25-H.P. Lidgerwood D.D., 220 volts, D.C.
1—45-H.P. Lidgerwood, 3 drum, 220 volts, D.C.

CRUSHER
1—24 x 36 Buchanan

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500 ft. span Lambert **Cableway** with steam hoist and buckets.
15 Steel Frame Universal Clam Shell **Excavator** complete.
12-in. x 12-in. Triplex **Pump**, double acting.
26-in. x 42-in. First Motion **Coal Hoists.**
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3—5 yd. Watson Traction Wagons
2 Quick Unloading Car Hoppers
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2 Ames 50 H.P. Engines and Boilers, mounted on wheels
3 two-ton Triplex Hoisting Blocks
1 D.D., D.C. 7 x 9 Hoisting Engine with boiler, $500; a bargain.
1 25-H.P. Boiler and Engine; fine condition
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2 Acme Portable Crushers, complete, size 10½ x 18
1 Aveling & Porter Steam Roller
2—500-gallon Tar Heating Wagons
1 Bulldog Gasoline Pump
1 Foos Gasoline Pump

All of the above in fine condition. Can be inspected at our yards.

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BOILER FLUES
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With new threads and couplings; also cut to sketch.

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Ferry & Foundry Sts., Newark, N. J.

For Sale—or Rent

ELECTRIC HOISTS: Two—25 H.P. Double Drum, Lidgerwood, Direct Connected, with Sleweres.
ELECTRIC HOIST: One—40 H.P. Lidgerwood, same as above.
ELECTRIC HOIST: One—75 H.P. Flory Three Drum, A.C. Motor, 220 Volt Three Phase.
STEAM SHOVEL: One Model 31 Marion full revolving with ¾-yd. Dipper.
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CLAMSHELL: One—¾-yd.
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RAILWAY EQUIPMENT

SECOND-HAND

PIPE

Large Stock—All Sizes

Recut—Perfect Threads and Couplings

Also a Large Stock
Contractors' Equipment

Marine Metal & Supply Co.
167 South Street, New York

EQUIPMENT of all kinds at bargain prices

10 tons—Hollow drill steel, 6 to 15 ft. long.
1—125 H.P. Locomotive Boiler, 125 lbs.
1—100 " " " " "
1—Lidgerwood D.D. Skeleton Hoist, 10½ x 14; 600-ft. length 2-in. steel rope, pumps, motors, etc.

PIPE Second-hand, every size—guaranteed for every service—pipe fittings, valves, etc. Pipe cut to sketch.

PIPE & CONTRACTORS SUPPLY CO., 3 Dover Street, New York

Wrought Pipe

New and Second-Hand
GUARANTEED
Large Stock—All Sizes
Special Low Prices

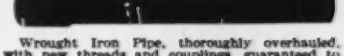
Eagle Pipe Supply Co., Inc.
30 Church St., New York City
INQUIRIES SOLICITED

TUBING, ALL SIZES **PIPE CUT TO SKETCH**

SECOND-HAND PIPE

Large stock, all sizes, furnished with new threads and couplings

JAMES F. GRIFFITH - 416-24 Moyer Street, Philadelphia, Pa.



Wrought Iron Pipe, thoroughly overhauled, with new threads and couplings, guaranteed to give entire satisfaction. Pipe cut to sketch. It will pay to correspond with us.

ALBERT & DAVIDSON, Inc.
Oakland and Kent Sts. - Brooklyn, N. Y.

SEARCHLIGHT SECTION

Second Hand Equipment

CHICAGO HOUSE WRECKING CO.

World's Leading Buyers and Liquidators

Factories, Complete Plants, Railroads, Estates, etc., offer these snaps and America's greatest stock available at once for immediate delivery.

STEAM SHOVELS

No. P-3207—1—70-ton Bucyrus steam shovel.
No. P-3209—1—Thew steam shovel ¾-yd. dipper.
No. C-1114—1—Marion Model 20, 1 to 1½-yd. dipper.

LOCOMOTIVE CRANES

No. C-1116—2—McMyler 4 wheel locomotive cranes, chain drive, 50 ft. diameter, 1½-yd. clam shell bucket.
No. C-1115—1—20-ton Orton and Steinbrenner 8-wheel, 2-drum locomotive crane.
No. C-1117—1—30-ton Industrial standard gauge locomotive crane, gooseneck boom.

HOISTING ENGINES

No. C-4101—2—42-in. single drum hoists, direct connected to 40 H.P., 4 cylinder auto. type gas engine.
No. C-1880—3—Stroudsburg double cylinder single friction drum hoisting engines.
No. C-1100—1—8½-in. Stroudsburg double cylinder, triple tandem friction drum hoisting engine.
No. C-1101—1—8½ x 10-in. Lidgerwood, double cylinder, triple tandem drum hoisting engine.
No. C-1109—1—10 x 12 in. Flory double cylinder, triple tandem friction drum hoisting engine, swinging gear.
No. C-1105—1—5 x 7 Flory double cylinder single drum hoisting engine.
No. C-1113—1—8½ x 10-in. American double cylinder, triple friction drum hoisting engine, swinging gear.
No. J-5041—1—8 x 10-in. double cylinder, single friction drum hoisting engine.
No. K- 329—1—Clyde 15-ton double drum hoisting engine.

DERRICK

No. C-1255—1—Guy Derrick, 80 ft. diameter, 80 ft. mast, complete with sheave wheels, guy wires and irons.

STONE CRUSHERS

No. C-1109—1—No. 3 Gates gyratory, style D stone crusher.
No. C-1108—2—No. 6 McCully gyratory stone crushers.

CONCRETE MIXERS

No. 1107—3—No. 12 Smith concrete mixers, complete with engine and boilers, capacity 16 cu.ft.

DROP HAMMERS

No. C-1112—1—200-lb. Vulcan Pile drop hammer.
No. C-1110—2—300-lb. Vulcan drop hammers.

DUMP CARS

No. C-1122—12—Scoop box rotary steel dump cars, 18-in. gage, 12 cu.ft. capacity.
No. C-1123—20—1½ yd. Western wood body, rotary dump cars, 24-in. gage.
No. C-1124—20—2-yd. Western, 2-way wood body dump cars, 30-in. gage.

BUCKETS

No. C-1118— 5—1½-yd. auto. dump buckets.
No. C-1121—80—1½-yd. Woods Acme bottom dump buckets.
No. C-1117— 2—1½-yd. dump drag line buckets.
No. C-1120—10—6 cu.ft. clam shell buckets.
No. C-1119— 9—12 cu.ft. auto. dump buckets.

VALVES

No. C-940—10,000—2 to 36-in. Gate, Globe, Angle and Foot Valves; never used. Crane, Kelly, Jones and Chapman makes.

CULVERTS

Big stock of double riveted and spiral riveted culvert pipe, 16, 20, 24, 36, 44 in. Any lengths.

PIPE

No. J-5404—100,000 ft. of Abendroth and Root spiral riveted pipe No. 10 gage, steel, 25-ft. lengths, complete with Root bolted joint couplings.
No. J-5405—170—8, 10, 12 and 24-in. cast iron pipe. Bell and Spigot ends.

Write for our current 160-page contractor's equipment, list No. EM-303

Address **HARRIS BROTHERS CO.**, *Owners*
35th and Iron Streets, Chicago, Ill.

Stone Crusher

9 x 15-in. Allis-Chalmers Blake Pattern Jaw Crusher. Excellent condition, practically new, less than three months' use. Price, $300. Available for immediate delivery.

FRANK TOOMEY, Inc.
127-131 N. Third St., Philadelphia, Pa.

HOISTS

25 H.P., S.D. Thomas Electric, 500 V., D. C.
10 H.P., S.D. Reversible, 220 V., 3 P., 60 ~ Electric
7½ H.P., S.D. Reversible, 110-220 V., 1 P., 60 ~ Electric
8 H.P., S.D. Novo Gasoline Reversible

MIXERS, Concrete and Hot

Hot Mixers, with traction, for asphalt, etc.
14½ ft. Smith on trucks, power loader, water tank, gasoline engine, has been used 10 days only.
1 Bag Milwaukee, gasoline, power loader and tank.
20 ft. Milwaukee on skids, batch hopper, with pulley or electric motor

TRAVELING DERRICK

All steel, self-propelling derrick with engine and clamshell. New 1916

STEEL TOWER BOOMS

78 ft., 12-ton capacity, with fittings for tower

BUCKETS and HOPPERS

20-ft. Wylie Concrete Tower Hopper, New
18-ft. Wylie Concrete Tower Hoist Bucket, New
18-ft. Insley Concrete Tower Hoist Bucket
1-yd. Stuebner Controllable Center Dump Tipover Buckets, round and square

660 ft. 1¼ in. 6x19 new wire rope

Used Equipment guaranteed to be in excellent condition. New equipment carried in stock.

ROY C. WHAYNE SUPPLY COMPANY
Louisville, Ky.

Symons Crusher Parts

We have for sale the following parts for No. 36 Symons Disc Crusher:

1 Eccentric Box
1 Shaft and Ball
1 Steel Spider
1 Outer Disc
1 Inner Disc
1 Eccentric Pulley Hub
1 Eccentric Pulley Rim
1 Nut

These parts are brand new, never been used.

All the above in A-1 condition and will be sold at a sacrifice.

THE B. D. PIERCE, Jr., CO.
122 Bank Street, Bridgeport, Conn.

Steam Roller

7-Ton Heisler Tandem

Reflued, Overhauled. First-class operating condition.

United States Equipment Company
210 So. La Salle Street
Chicago

Tandem Roller Bargains

One 6-ton—Almost new.
One 10-ton—Overhauled.

UNIVERSAL ROAD MACHINERY CO.
Kingston, N. Y.

FOR SALE

9x16 and 10x20 **Jaw Crushers** with Elevator, Screen and Portable Bin.
5 and 6 in. Morris D. C. **Steam Pumps.**
Austin, Parsons and Potter **Trench Machines.**

Concrete Mixers, Derricks, Steam Drills, Gasolene Engines, Motors and other Equipment. Let me know what you need.

Thomas J. Lane, 240-241 Bushnell Bldg., Springfield, Ohio

Roller for Sale

10-ton three-wheel roller, cheap.

FS1003—Eng. News-Record

FOR SALE

Steel Spider for Gates 7½-K Crusher
No. 4 Gates "B" **crusher**
Baldwin **locomotive,** 9 x 14 in., 36-in. gage
One Guy **derrick,** mast 70 ft., boom 60 ft., steel bull-wheel
One No. 19 Star Traction **well drill**
One **elevator,** 36-in. buckets, 60 C. to C., new drive gears, 130-ft. long
Landis stationary **engine,** 70 H.P.
Worthington **pump,** 10 x 6 x 10

SUSQUEHANNA STONE COMPANY
Williamsport, Pa.

FOR SALE—Koehring Street

PAVER

Size 14. Just overhauled and in fine shape. Can be seen working now.

H. E. BUNCE, Olean, N. Y.

FOR SALE

8-Ton Kelley-Springfield TANDEM

ROAD ROLLER

Good as new

D. E. SULLIVAN & SON., Columbus, Ohio

FOR SALE—One No. 5 mounted

SYMONS CRUSHER

with elevator, also complete crushing outfit for road building, including boiler and engine, drills, bins, steel, rails, derrick, boxes, centrifugal pump and other small tools. One 25-ton steel **Galion Unloader,** almost new. Two 7-ton **Sterling Dump Body Trucks.**

C. E. Redington, 127 W. 1st St., Greensburg, Ind

SEARCHLIGHT SECTION

Second Hand Equipment

A COMPLETE QUARRY

1—No. 7½ Austin **Rock Crusher** (cost about $6000)

1—No. 3 Austin **Rock Crusher**

1—20-ft. **Revolving Screen,** 40-in. diameter

1—65-ft. **Elevator,** complete with belt and buckets

6—Patent **Ore Gates**

1—80-H.P. Fairbanks-Morse **Oil Engine**

1—50-H.P. Fairbanks-Morse **Oil Engine**

1—30-H.P. **Oil Engine**

1—25 H.P. **Oil Engine**

1—Gardner **Air Compressor**

Several Big **Air Drills**

5—Herzog Hand **Air Drills**

Quantity **Wire Rope** and **Cable**

Quantity **Tool Steel**

Quantity **Hand Tools** for 75 men, including sledges, forks, picks, etc.

1—Complete **Blacksmith's Shop** and **Outfit**

Galvanized Water and Oil **Tanks**

1—Fairbanks-Morse Engine Driven **Water Pump**

500 ft. various lengths galvanized and black **Iron Pipe,** assorted sizes

Boarding House and **Kitchen Equipment** for crew of 75 men

40—**Trucks,** 2-in. axles, roller bearing, for quarry cars.

For further particulars

POWER EQUIPMENT CO.

501 Fifth Avenue **New York, N. Y.**

Contractors' Equipment—Quarry and Stone Cutting Equipment

Second Hand ***For Immediate Delivery***

Hoisting Engines, Boilers, Derricks, Pumps, Concrete Mixers and Trough, Hoisting Crabs, Feed Water Heaters, Riveting Hammers, Air Compressors and Receivers, Plug Drills, Steel Drilling Machines, Pneumatic Stone Carvers' Tools, Motors and Blacksmiths' Tools.

JAMES STEWART & CO., INC., BOX 797 **Oklahoma City, Okla.**

FOR SALE

1—**White Truck,** 5-ton capacity, iron wheels, self-dump.
1—J. I. Case **Steam Tractor,** engine and boiler, 50 H.P.
1—J. I. Case **GasTractor,** 20 H.P.
1—Fairbanks **Scale.**
1—Ingersoll-Rand **Steam Drill**
4—Eagle **Dump Wagons.**
4—2-wheeled **Scrapers.**

CHARLES P. RYAN, *Receiver*
Third National Bank Bldg., Syracuse, N. Y.

Crusher Plant

No. 7½ Austin Crusher.
No. 5 Austin Crusher.
Austin Elevator—26 in. wide, 67 ft. 6 in. shaft centers.
Austin Screen—48 in. x 16 ft.
The building, shafting, pulleys, belting, etc., complete including erecting diagram.
1000 tons daily capacity.

HACKLEY MORRISON, Richmond, Va.

FOR SALE—Used 2 months.
No. 3 Foote continuous **Mixer** on wheels, with traction.
Scarifier—Strain and Sanford, double sets diamond steel picks.
300 gallon Tar **Kettle** with superheater, on wheels.
Monarch 10-ton **Steam Roller.**

W. J. COUGHLIN
665 Newark Ave., Jersey City, N. J.

FOR SALE—One 1916, ½-yard tilting

AUSTIN CUBE MIXER

with side loader, automatic water tank, gasoline power. Has been used on only 500 yards of concrete. **Price $900.**

FS98 (Ill.)—Eng. News-Record, Chicago.

MIXER

FOR SALE

Koehring No. 16—Best Condition—Immediate Delivery.

Price $2000.

Harrison Engineering & Construction Corp.
301 Morgan Bldg., Buffalo, N. Y.

SEARCHLIGHT SECTION

Second Hand Equipment

Electric Hoist

FOR SALE

Lidgerwood 40 H.P. Double Drum, Size No. 519 Hoist, direct connected to a 40 H P. General Electric 58 Motor, Direct Current, 220 Volt. Controller, etc., complete. Drums tandem, 16 in. diam., 24 in. face. Used only few months on one job. Excellent condition. Immediate Chicago shipment.

WILLIS SHAW
239 Railway Exchange Bldg., Chicago, Ill.

IMMEDIATE DELIVERY

Machinery for Moving Materials

DERRICKS
4—Stiffleg 35-ft. Mast, 60-ft. Boom.
1—Stiffleg 36-ft. Mast, 75-ft. Boom.
3—Guy 65-ft. Mast, 60-ft. Boom.
1—Steel Stiffleg, 80-ft. boom on std. gage trucks, 50-75-ton capacity.
5—Sets Stiffleg Derrick Fittings, 50 tons capacity.

DERRICK CARS
1—36-ft. Std. Gage Car, 14-ft. Boom, 40-ft. Mast with 1 yd. Clam Shell Bucket.

DUMP CARS
35—Western 4 yd. Capacity, 36-in. Gage.
15—Double Truck Center Dump, 36-in. Gage.

LOCOMOTIVES
4—10 x 16 in. Vulcan and Porter 36-in. Gage.
2— 9 x 14 in. Porter 36-in. Gage.
1— 8 x 10 in. Baldwin, 36-in. Gage.

PILE DRIVERS
1—55 x 28 ft., 75-ft. Leads.
1—50 x 26 ft., 85-ft. Leads.

HOISTING ENGINES
1—10 x 12 in. D.C., D.D., with Boiler.
3— 7 x 10 in. Lidgerwood D.D., D.C., swinging gear.
1—3-drum Electric.
4—8½ x 10 Lidgerwood D.D., D.C.

LOCOMOTIVE CRANES
1—15-ton Industrial 40 ft. Boom
1—30-ton Industrial 30 ft. Boom
1—17-ton. Industrial 45 ft. Boom.

STANDARD GAGE LOCOMOTIVES
1—40-ton saddle tank Baldwin
1—35-ton, 2-4-2 Porter saddle tank

STEAM SHOVELS
1—No. 1 Thew
1—70-ton Bucyrus

TRAVELING DERRICKS
2—60-ft. Boom, 30-ft. Mast.
1—35-ft. Boom, 15-ft. Mast.
1—45-ft. Boom, 25-ft. Mast.

HOISTING MACHINERY CO., 50 Church Street, NEW YORK, N. Y.

HOISTS

Compressors - Boilers - Mixers
Derricks - Cableways
For Sale or Lease
HOISTING ENGINE SALES CO.
Grand Central Station, New York

FOR SALE

4—HOISTERS
1—Ten-ton DERRICK
3—MIXERS
1—Floating PILE DRIVER
1—SHEET HAMMER

LEWTER F. HOBBS, Norfolk, Va.

MUNDY HOISTS FOR SALE

One 9 x 10 D.D., D.C., Mundy hoist with boiler, complete with geared swinger attached. New 1916. Used thirty days. Guaranteed as new. Bargain for quick sale. One 6½ x 12 D.D., D.C., Mundy hoist, completely overhauled. Condition first-class.

L. G. Everist, Inc., Sioux City, Iowa.

Steam Hoist

One Lidgerwood **Steam Hoist**, Double Drum, 7 x 10, with butt riveted boiler of especially sound design, passing inspection in any state in the Union.

Steel Derrick

One 20-ton stiff-leg all **Steel Derrick**, boom 100 ft. to 75 ft., no bull wheel; an exceptionally well-built derrick, used by us on one job only.

Air Compressor

One Clayton Steam **Air Compressor**, capacity 150 cubic feet.

INTERNATIONAL STEEL ERECTION CO.
Waukesha, Wisconsin

PLANT FOR SALE

1—Ingersoll-Rand Imperial Type No. 10 **Compressor**, 1200 cu.ft.
1—Lidgerwood D.D., D.C. 8½ x 10 steam **Hoisting Engine**, complete
1—Stroudsburg D.D., D.C. 8½ x 10 steam **Hoisting Engine**, complete
1—Flourty 75 H.P. 3 drum A.C. **Hoist** electric, complete
1—Ames No. 10 Locomotive Type **Steam Boiler**
1—Single drum **Electric Hoist**
1—Stiff leg **Derrick**, complete
1—**Guy Derrick** with guys, bull wheel, complete
2—**Concrete Mixers**, capacity 9 cu.ft.
2—**Air Receivers**, 5 ft. 0 in. x 14 ft. 0 in.
10—**Cameron Pumps** 7—Centrifugal Pumps
3—Ransome **Grout Machines**
3—**Locomotive Motors** 2—Turntables
Flat Cars, Dump Cars
Drills, Batteries, Pipe Cutting Machines. Also other plant used in big tunnel contract.

HANS R. JACOBSEN, Consulting Engineer
132 Nassau Street, **New York City**

FOR SALE

A Fine Line of Rebuilt

Concrete Mixers Hoisting Engines Derricks

and Other

Contractors' Equipment

For Immediate Delivery

We Buy and Sell

CHICAGO BUILDERS SPECIALTIES CO.
11 So. LaSalle St., CHICAGO, ILL.

PLANT FOR SALE

1—Electric Driven **Concrete Mixer**
1—Steam **Concrete Mixer**
1—Five-ton Stiff Leg **Derrick**
1—Ten-ton Stiff Leg **Derrick**
Steam Hoists, no boilers, steam and electric pumps.
1—1200 cu.ft. capacity Electric Driven **Compressor**, D.C. Motor
Stuebner **Buckets**
D.C. Motors from 5 to 50 H.P.

U. S. REALTY & IMPROVEMENT CO.
949 Broadway, New York City
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FOR SALE

Electric Cableway

Five (5) Ton, 700-ft. span Lidgerwood, self-contained Electric Cableway Hoist.

Belt Conveyor

One (1) Belt Conveyor outfit and charging apparatus, including 395-ft., 18-in. conveyor belt, etc.

East Creek Electric Light & Power Co.
St. Johnsville, N. Y.

Immediate Delivery

Contractors' Accessories Locomotive Cranes

2—15-ton Brownings—one with Bucket
1—15-ton McMyler
1—20-ton Ohio
1—30-ton Industrial
Stiff Leg Derrick, 76-ft. Oregon Pine Boom.
Derrick Lighter 77-ft. Boom. Deck capacity 250 tons.
Air Compressors, Motors, Boilers, Hoists, etc.

Send us list of your plant for sale.

FRANK T. CRAVEN COMPANY
Hudson Terminal, Suite 1957-1959
50 Church Street, New York

FOR SALE

30 Contractors' **Dump Wagons**, 1½ yd., 4-wheel
Also a number of dump **Carts** and harness
Derricks, traveling, stiff-leg and guy
Steam shovels, locomotives, cars and rail.

DALLETT & COMPANY
413 Harrison Bldg., Philadelphia, Pa.

FOR SALE

2—Guy **Derricks**, 16 in. x 88 ft.
125 H.P. **Boiler**, H.R.T. 125 lb,
10 steel **Skips**, 4-yd. capacity.
17—**Cars**, 24-in. gage, Rotary Dump.
9—Tip **Buckets**, ¾-yd.

Chas. F. Avery, 45 Broadway, N. Y. City.

We OWN and offer FOR SALE
5-ton, 4-wheel
BROWN HOIST LOCOMOTIVE CRANE
equipped for handling bucket, standard gauge, 30 ft. boom. In good working order; for immediate delivery.

DALLETT & COMPANY
413 Harrison Bldg., Philadelphia, Pa.

SEARCHLIGHT SECTION

Second Hand Equipment

LOCOMOTIVE CRANE

35-ton McMyler Interstate, 70 ft. Boom

operates Clam Shell or Dragline Bucket, 8 wheel truck, standard gage.

Immediate shipment

Concrete Mixers

10 ft. Smith with loader, steam power, on trucks
16½ ft. Smith with loader, steam power, on trucks
16½ ft. Smith, engine, no boiler, on skids
22 ft. Smith with engine, no boiler
10 ft. Ransome Bantam
10 ft. Ideal Cincinnatus Street Paver with gasolene engine

Derricks

All Steel Stiff Leg, 110 ft. boom
52 ft. 12 in. x 12 in. Wood Beam Stiff Leg
48 ft. 12 in. x 12 in. Wood Boom Guy also several smaller sizes

Hoisting Engines

6½ x 10 DC DD McKewon with boiler
7½ x 10 DC DD Mundy, no boiler
8 x 12 DC D Flory with boiler
8½ x 12 DC DD Lidgerwood with boiler
5½ x 7 DC DD Byers link reversing
35 HP. Thomas DD 220 V., 3 Ph. AC.
50 HP. Thomas DD 220 V. DC.

Pumps

Morris 6 in. Discharge 6 in. x 8 in. Engine
Erie 6 in. Discharge 6 in. x 8 in. Engine
(2) No. 7 Pulsometers 4 in. Discharge
(1) No. 3 Pulsometer 2 in. Discharge

Miscellaneous

11 ton Kelly Macadam Roller
30 HP. Ohio Oil Tractor and Roller
No. 1 Aurora Jaw Crusher, 9 x 16
32 ft. Jeffrey Stone Elevator
1 yd. Williams Clam Shell Bucket
¾ yd. Insley Controllable Bottom Dump Bucket
60 ft. Alvey Ferguson Roller Conveyor
(2) 1½ yard 24 in. gauge Koppel Cars

Steam Shovels

Model 20 Marion 1½
Model 60 Marion 2½
Model "O" Thew ¾ yd.
Also
Model 70 Bucyrus, (2) 9 x 14 Vulcan Dinkies, (1) 10 x 16 Vulcan, (30) 4-yd. Oliver Cars with steel underframes. Sullivan Drill and Blacksmith Outfit on which will name a very low price for the whole outfit or sell separately.

THE EQUITY EQUIPMENT CO., 1434-36-38 Main St., Cincinnati, O.

LOCOMOTIVES

2—9 x 14 Vulcan 36 in. gauge Dinkeys
1—9 x 14 Porter 36 in. gauge Dinkey
2—10 x 14 Standard gauge Davenports

LOCOMOTIVE CRANES

1—15-ton McMyler Crane, 40 ft. boom
1—25-ton Industrial Crane, single drum, 80 ft. boom

STEAM SHOVELS

1—¾-yard Type B Erie Shovel
1—70-C Bucyrus Shovel

H. KLEINHANS COMPANY
Union Arcade, Pittsburgh, Pa.

DRAGLINE BUCYRUS
1—175-B Electric, 125-ft. boom; good as new

STEAM SHOVEL
1—Marion Model 76, Special No. 2777; nearly 50% greater working radius and height than Standard 76.

CHANNELERS
3—Sullivan Duplex with excellent boilers and steels. Flab.

J. O. Heyworth, Harvester Building, **Chicago**

Locomotive Crane

1—10-ton 4-wheel Industrial, overhauled, new boom. Immediate shipment.

Steam Shovel

1—Bucyrus 1½-yd. dipper on railroad trucks—good condition.

Herbert Givin Co.
30 Church Street, New York, N. Y.

LOCOMOTIVE CRANES

1—Brownhoist, approx. 15 T. cap., 4 W., 40-ft. b., d.d., immed. del. N. Y. State.
1—Brownhoist, approx. 12 T. cap., 4 W., 35-ft. b., 54-in. boiler, d.d., immed. del. Middle West.

TITAN EQUIPMENT COMPANY
30 Church St., New York, N. Y.
Tel. 1111 Cort.

CABLEWAY EQUIPMENT

4-drum hoist arranged for motor drive, with all fittings suitable handling 8 tons at 550-ft. span, including automatic dumping device—immediate delivery.

H. P. Brearley - 90 West St., New York

Locomotive Cranes

6—Brand new, 30 ft. boom, ¾ yd. C. S. Bucket, 4 wheel, standard gauge, Ohio boiler, outriggers, rail clamps, cut steel gears.
1—McMyler-Interstate, 10 ton, 4 wheel, 40 ft. boom, 1 yd. bucket.
1—McMyler, 40 ft. boom, 8 wheel, MCB., 1¼ C.S. Bucket.

Immediate shipment.

MOORE BROS.
30 So. LaSalle Street, Chicago, Ill.

LOCOMOTIVE CRANES

Ready for Immediate Shipment

4—10-12-ton capacity Orton and Steinbrenner, brand new, 8-wheel, M.C.B., equipped for clam shell or fall block and hook work, in original manufacturers packages, boxed for export, located in New York City.

F. MAYER, 1601 Monadnock Building, Chicago, Illinois

CRANES

IMMEDIATE SHIPMENT

1—20-ton O & S, 8-wheel M.C.B., 50-ft. boom, 1½-yd. clam-shell, first-class condition.
1—20-ton O & S, on 14-ft. gage truck, 50-ft. boom, 1½-yd. clam-shell, first-class condition, Chicago.
3—McMyler Locomotive Cranes on 14-ft. gage trucks, 60-ft. boom, first-class condition, Chicago.

Wire if interested—

Machinery Warehouse & Sales Co.
Successors to G. C. Marsh & Co.
740 Old Colony Bldg., Chicago

SEARCHLIGHT SECTION

Second Hand Equipment

FOR SALE

1 No. 2 Vulcan Steam Hammer

A Bargain For Cash.

Contractors Material Co.
Des Moines, Ia.

CHAIN SLINGS

SUITABLE FOR

Bridge Builders, Contractors, Quarries, Etc.

We offer 166 chain slings, sizes ½, ⅝, ¾, 1, 1¼, 1½, 1¾, 1½ and 1¾ in. Lengths from 6 to 20-0 ft. with egg link hooks and rings. These chains are practically as good as new, have been annealed and tested. We hold certificates showing the breaking strain and proof strain under which chain was tested. Chains are perfect in every detail, each chain having been tested separately. Chains are made of high-grade selected iron and are made of 3-8 sling chain. Immediate delivery. Prices on Application.

MARINE METAL & SUPPLY CO.
167 South Street, New York City

Contractors—Engineers

We have in stock for immediate delivery

150 9-in. Beams 8 ft. to 19 ft. long.
100 12-in. Beams 5 ft. to 19 ft. long.
750 15-in. Beams 8 ft. to 20 ft. long.
150 20-in. Beams 8 ft. to 20 ft. lang.

All material in fine condition. Inspection invited.

The Perry Buxton Doane Co.
Chelsea, Mass.

FOR SALE

About 4500 Poles

Long Leaf Yellow Pine, creosoted by standard method with 12 lb. per cu.ft. The poles are straight, specially selected and finest class, 35 to 36 ft. long and 14 to 11½ in. diameter 5 ft. from butt. Poles were inspected, accepted and purchased for a neutral country power line but shipping conditions prevent moving. Now stored at Mobile. Inspection can be arranged.

Further particulars obtainable from

THE PYRITE COMPANY, LTD.
15 William Street, New York, N. Y.

STEEL PILING, BUCKETS, ETC.

400 pcs. Lackawanna arch webb 14 x ½ in. x 17 ft.
1 Sprague No. 7 electric grab bucket hoist
2 Hayward ½-yd. clamshell buckets
1 Hayward ½-yd. orange peel bucket
2 McKiernan-Terry No. 5 hammers

Immediate delivery. *Condition guaranteed.*

Gibbons & Reed Co., Salt Lake City, Utah.

BUCKETS FOR SALE

½-yd. Mead-Morrison Clam Shell
½-yd. McMyler Clam Shell
½-yd. Williams Favorite Clam Shell
1, 1½, 1¼ Class "E" Hayward Clam Shell
¼ and 1-yd. Hayward Orange Peels
1-yd. Acme Bottom Dump Tub

John H. Carlin Machine Company
North Side, Pittsburgh, Pa.

BRIDGES

Highway drawbridge for sale, for delivery in spring of 1916. Through span 176-ft. swing bridge, center support, 20-ft. clear roadway, with one 4-ft. sidewalk; steel trusses and floor beams with wooden stringers and floor plank; designed to carry one 40-ton car on one span; electric operation; built in spring of 1915.

For further information apply to

Holbrook, Cabot & Rollins Corpn.
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FOR SALE OR RENT

1-Thew "O" ⅝-yd dipper at Marion, O.

1-Thew "A1" ⅞-yd dipper Shop No. 821

Good as new, at Flint, Mich.

The Cleveland & Erie Machinery Co.
Cleveland, O.

Steam Shovels

FOR SALE

1—¾-yd. Thew—nearly new.
1—1¼-yd. Thew. Standard gage. In good order. Low price.
1—1¼-yd. Marion. Extra fine order. Traction and standard gage trucks.
1—¾-yd. Marion-Osgood.
2—Keystone Excavators. One new.

KNAPP MACHINERY SUPPLY CO.
120 Liberty Street, N. Y. City

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For immediate delivery

Steel Building

practically new 92 x 118 ft. Price and B-P on application.

Henry A. Hitner's Sons Co.
Station K, Philadelphia, Pa.

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FOR SALE FOR RENT

New and Rebuilt

½ & ¾ yd., $2.00 per day
1 & 1½ yd., $2.75 per day

Send for catalog

George Haiss Mfg. Co.
140th St. and Rider Ave. New York City

Overhauled since last used

Thew A-1

Steam Shovel

10x16 Baldwin, 36 in. gage

Locomotive

JAS. S. BRADEN
26 Cortlandt Street, New York City

BUCKETS

One 3-yard Orange Peel. One ½-yard clamshell.

STEEL STACK

60 in. x 110 ft., like new.

18 x 42 **Whetherill Corliss Engine, Boilers, Tanks, Pipe, etc.**

M. J. Hunt, 1316 Beach St. Philadelphia, Pa.

Type "O" Thew Shovel

For Sale or Rent

Location central New York, can furnish crew, available at once.

FS47 (N. Y.)—Eng. News-Record.

FOR SALE
1—70-C

BUCYRUS SHOVEL

in first-class shape.

S. L. STARK COMPANY
1st Nat'l Bank Bldg., Pittsburgh, Pa.

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1—65-ton Bucyrus **Steam Shovel**
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1—No. 3 Austin **Trenching Machine**

Splendid condition at sacrifice prices.

Western Machinery & Equipment Co.
S. 5 Stevens Street, Spokane, Wash.

FOR SALE—65 ton

STEAM SHOVEL

2½ yd. dipper. Ready for operation.

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Second Hand Equipment

Tanks For Sale

2—8 x 20-ft. cylindrical storage tanks
1—3 x 17-ft. cylindrical storage tank
1—10 x 35-ft. open tank Bell Bottom
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1—8 x 12-ft. upright pressure tank
1—6 x 12-ft. long upright tank
1—6-ft. 6-in. x 26-ft. 6-in. pressure tank

SAMUEL J. JEFFERIES CO.
1914 Freeman Ave., Cincinnati, Ohio

STEEL PILING SECOND-HAND

Wemlinger, 12 in. x ¼ in. and ⅜ in.

200 pcs. 4 ft. long	207 pcs. 12 ft. long
70 pcs. 6 ft. long	100 pcs. 14 ft. long
250 pcs. 8 ft. long	750 pcs. 20 ft. long
100 pcs. 10 ft. long	300 pcs. 24 ft. long

United States, 6 in. and 9 in. x ¼ in.

170 pcs. 14 ft. long	100 pcs. 22 ft. long

United States, 12¼ in. x ⅜ in.

125 pcs. 14 ft. long	320 pcs. 18 ft. long
50 pcs. 15 ft. long	250 pcs. 20 ft. long
60 pcs. 17 ft. long	115 pcs. 25 ft. long

Lackawanna, 7 in. x ¼ in.

38 pcs. 8 ft. long	180 pcs. 14 ft. long
165 pcs. 10 ft. long	78 pcs. 22 ft. long

Lackawanna, 12¾ in. and 14 in. x ⅜ in.

175 pcs. 16 ft. long	150 pcs. 25 ft. long
260 pcs. 18 ft. long	150 pcs. 30 ft. long
50 pcs. 20 ft. long	164 pcs. 40 ft. long
80 pcs. 24 ft. long	

We are buying or selling steel piling every day and, of course, above list is only approximate.

Wemlinger Steel Piling Company
42 Whitehall St., New York City
"The Steel Piling Exchange"

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Anvils	Hammers
Blowers and Fans	Hose Cart
Buckets	Hospital Equipment
Boat	Office Equipment
Building	Oil Separator
Cant Hooks	Pile Hammer
Cars	Pipe Cutters
Chain Blocks	Pipe Stock
Derrick Engine	Pipe Vises
Drill Steels	Pumps
Electric Locomotives	Scale
Electric Heaters	Stacks
Air Engines	Electric Switchboard
Horizontal Engine	Timber Carriers
Fire Hydrant	Turbine Tube Cleaner
Fire Pails	Vises
Gas Heaters	Wheelbarrows
Generators	Wire Cable
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Resident Engineer, Astoria Light, Heat and Power Co.
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4 tons 1¼-in. Round, 4 tons 1½-in. Hexagon Jakos Swedish Bars for immediate shipment from our New York warehouse.

HAMILTON & HANSELL
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Prompt shipment from stock

90 pcs. 14-ft. Lackawanna,	7 x ¼
103 pcs. 22-ft. Lackawanna,	7 x ¼
124 pcs. 10-ft. Lackawanna,	12¼ x ⅜
180 pcs. 14-ft. Lackawanna,	12¼ x ⅜
75 pcs. 15-ft. Lackawanna,	12¼ x ⅜
52 pcs. 17-ft. Lackawanna,	12¼ x ⅜
57 pcs. 19-ft. Lackawanna,	12¼ x ⅜
190 pcs. 25-ft. Lackawanna,	14 x ⅜
80 pcs. 18-ft. United States,	12 x ⅜
560 pcs. 20-ft. United States,	12 x ⅜
365 pcs. 20-ft. United States,	12¼ x ⅜
110 pcs. 36-ft. United States,	12¼ x ⅜
39 pcs. 40-ft. United States,	12¼ x ⅜
24 pcs. 9 ft. Wemlinger,	12 x 13¼ lb.
504 pcs. 12-ft. Wemlinger,	12 x 7¼ lb.
111 pcs. 13-ft. Wemlinger,	12 x 13¼ lb.

This only partial list. Wire or write us your requirements.

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24-ft. 6 in. span, 91 ft. 6 in. long, ell-shaped, covered sides, good galvanized iron.

40 ft. clear span, leanto truss, 70 ft. long, covered sides and roof, good galvanized iron.

Immediate inspection and shipment

THE C. B. KIMBERLY CO.
Wheeling, W. Va.

Foundry Building and Equipment

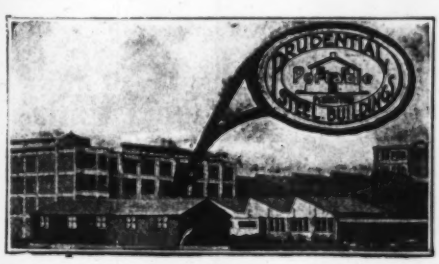
IMMEDIATE SHIPMENT

Steel Truss Building 55 x 100, with 3-ton Crane. Whiting No. 4—35 ft. Cupola, Blower, 36 x 60 and 24 x 36 Tumbler, Elevator, V-body dump car, two 2-ton Yard Trucks, two 1-ton Truck Ladles, Core Oven and car, Industrial track, Moulders equipment and tools.

R. W. BAILY
122 S. Michigan Boulevard, Chicago

Wire Rope

1 pc. 1½-in. dia., 550 ft. Like New.
1 pc. 1¼-in. dia., 445 ft. First-class.
1 pc. 2- in. dia., 821 ft. Brand New.
1 pc. 2¼-in. dia., 2000 ft. First-class.



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for bunk houses, equipment storage, cement sheds, factory extensions, garages. All purposes of one story. New and second-hand. Made of galvanized steel in units of 2 feet in length. Walls 8 ft., 9 ft., 10 ft., 12 ft. height.

Ask for Catalog "N."

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Buckets

1—½-yd. Hayward Clam Shell.
1—1-yd. Hayward Clam Shell.
1—2-yd. Browning Clam Shell.
2—1-yd. Hayward Orange Peel
1—2-yd. Page Drag Line.
1—2½-yd. Shnable Drag Line.

Cast Iron Pipe

1500 ft., 24-in. dia., wt. 183 lb. per ft. First-class. Immediate shipment.

Rails, Cars, Locomotives and Equipment.

ZELNICKER
WAREHOUSE & TRANSFER COMPANY
ST. LOUIS

FOR IMMEDIATE DELIVERY

TIES 3"x4"—3' 6"
4"x5"—4' 6"
4"x6"—6'

Also **PILING** and **SHEET PILING**
My prices will interest you.
F. H. WELLS, Agent, Savannah, N. Y.

PLATE GIRDERS

50 plate girders, 6 ft. 0 in. deep, 55 to 70 ft. long; first-class condition; particulars and price on request.

HENRY A. HITNER'S SONS CO.
Station K, Philadelphia, Pa.

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2—60 H.P. Lambert, 2-drum, electric **hoists,** with boom swinger, 220 volt, D.C.

1—Lidgerwood **hoist,** 14 x 18 in., D.C., 3 drum, like new.

Atlas **electric locomotive,** 36-in. gage, 550 volt, D.C.

Baldwin S. T. **locomotive,** 13½ x 22 in. S.G. 6 driver.

2—65-ton Bucyrus **shovels,** S.G. 2½-yd. dippers.

Several compressors, new and second-hand machinery, pipe, etc., for contractors, mills, mines, etc.

Henry A. Hitner's Sons Co.
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SHOVELS
(R. R. Type)

1—Marion 75, long boom
2—Marion 60, 2½-yd. dipper
2—Bucyrus 70C, 2½-yd. dipper
1—Marion 40, 1½-yd. dipper
1—Thew 1, 1½-yd. dipper

LOCOMOTIVES
(36-in. Gage)

2—12 x 18 Vulcans
1—11 x 16 Davenport
3—10 x 16 Vulcans
2— 9 x 14 Vul. & Dav.

DUMP CARS
(36-in. Gage)

50—4-yd. Western, Standard Type
40—4-yd. Western, Heavy Duty Type
16—5-yd. Western, Heavy Duty Type

LOCOMOTIVE CRANES
2—10-ton, 4-wheel Standard Gage Cranes

SHOVELS
(Traction Type)

1—Marion 36, 1½-yd. dipper
1—Osgood 18, ¾-yd. dipper
1—Bucyrus 18B, ¾-yd. dipper
1—Bucyrus 14B, ¾-yd. dipper
1—Marion 40, 1½-yd. dipper

LOCOMOTIVES
(Standard Gage)

2—12 x 18 S. T., Vul. & Dav.
2—11 x 16 S. T., Porters
1—11 x 16 S. T., Vulcan
2—10 x 16 S. T., Porters

DUMP CARS
(Standard Gage)

10—12-yd. Hand Dump Western Steel Floors
18—12-yd. Air Dump Western
50— 6-yd. Western, K & J, A. C. & F.

AIR COMPRESSORS
A large number from 500 to 5000 ft. capacity.

SPECIAL BARGAIN
2—70-ton Bucyrus Shovels, $6000 for both

CONTRACTORS SERVICE CO., 48 Church Street, New York City

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1—Standard gage 18-ton Davenport saddle tank, like new, immediate delivery, Chicago.

1—Standard gage 17 x 24 Rhode Island switching engine, 44-in. drivers, weight on drivers 76,290 lb., weight of tender 52,700 lb., immediate delivery, Chicago.

1—Standard gage Baldwin passenger engine, weight on drivers 60,200 lb., total on engine 101,700 lb., light weight engine and tender 133,300 lb., four 56-in. drivers, immediate delivery, Buffalo.

F. MAYER
1601 Monadnock Bldg., Chicago, Ill.

RAILS

10,000 tons of first-class Relaying Rails, suitable for export.

Also, a large tonnage of 30 to 75 lb. Relaying Rails, with angle bars, for domestic use.

Available for prompt shipment.

EQUIPMENT

We have a complete line of high-grade equipment, including—

LOCOMOTIVES
Dump Cars **Spreader Cars**
STEAM SHOVELS
Drag Lines **Locomotive Cranes**
Passenger and Freight Cars

Please send us your inquiries. It will pay you to do so.

The Isaac Joseph Iron Company
525-535 Reading Road, **Cincinnati, O.**

All-Steel Cars

1—58 ft.—250,000 Capacity—Flat
1—54 ft.—100,000 Capacity—Flat
50—29 ft.—100,000 Capacity—Hopper Bottom Ore
8—36 ft.— 80,000 Capacity—Side Dump Goodwin Ballast.

All in first class condition
Prompt Shipment.

"ZELNICKER" In St. Louis

FOR SALE
Ten Koppel
CRADLE CARS
36-ft. capacity, 24-in. gage, also 1200 ft. of
TRACK AND TURNOUT
all in first-class condition.
CLARK J. HARDING, Pittsfield, Mass.

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Narrow and Standard Gage for every service, rebuilt, immediate delivery.

Locomotive Cranes, Steam Shovels, Cars, Etc.
SOUTHERN IRON & EQUIPMENT CO.
Atlanta, Georgia

Machinery at a Bargain for Quick Sale

15,000 ft. 24-in. gage, 16-lb. **Koppel Track,** complete with **Frogs** and **Switches**
28—1½ yd. 24-in. gage **Koppel Cars**
2—3-ton, 24-in. gage Plymouth **Gasoline Locomotives**
1—Model "O" **Thew Shovel,** equipped with ⅝-yd. Bucket

MILLER-CRIPPEN EQUIPMENT CO., Inc.
418-419 First National Bank Building
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85 lb. A.S.C.E. Relayers

16,000 tons—with Angle Bars to match.
Available immediate shipment and centrally located.
We positively own these Rails and offer same in carload lots and over.
25,000 tons—Relayers—sizes 25 lb. to 100 lb. in stock at our Pittsburgh Yards and vicinity. Immediate shipment guaranteed and prices very attractive.
Carload and less than carload inquiries and orders solicited.
Rails cut to length for structural purposes.
Frogs, Switches, Bolts, Nuts, Spikes and all Accessories.

L. B. FOSTER COMPANY
Park Building, Pittsburgh, Pa.

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130 Tons New
65-lb. A. S. C. E. Section T Rails
300 Tons
50-lb. Relaying T Rails

HENRY LEVIS & CO.,
26 S. 15th St., Philadelphia, Pa.

FOR SALE—15—60,000-lb. capacity, standard gage
BOX CARS
A-1 condition, immediate delivery.
TANKS
Metal and wood, fine condition.
Dallett & Co., 413 Harrison Bldg., Philadelphia

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IMMEDIATE SHIPMENT
150 tons of new 90-lb. rail
140 tons of new 100-lb. rail
Wire for prices.
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FOR SALE
Locomotive Cranes, Derricks, Concrete Mixers, Steam Shovels, Locomotives, Cars, Rails, Hoisting Engines, Electric Hoists, Cableways.
All necessary equipment for complete plant.

JOHN M. GREENE
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This "Awful Ridgway Stuff"

Will always be found at the top of the first right hand page at the end of the "Searchlight Section."

Right at the end of the Second Hand Stuff.

All the **"JOHNNY-ON-THE JOB"** engineers have gotten into the habit of turning to this **"HOOK 'ER TO THE BILER"** ad. just for the fun of seeing if it is "quite as bad as it was last week."

And it usually is.

For we consider it our duty as well as good business to wake the **"DEAD ONES"** to the importance of this Remarkable Freight Elevator for the Mill Owner who has steam available.

ABSOLUTE PERFECTION in freight elevators is a surprising and bold claim.

So tremendous that the **"DEAD ONES"** just laugh.

But here are just two points among many sufficient to arrest a ttention

1. **FOOL PROOF.** When the Ridgway elevator is overloaded instead of being over-strained and burning out a motor, **IT JUST WON'T GO.**

2. **RUNS WHEN ENGINE IS SHUT DOWN.** As the circus man says, this feature alone is worth the full price of admission.

Ask this bunch

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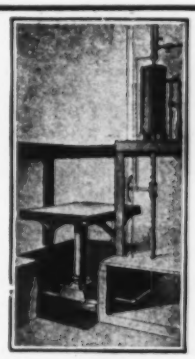
why they all

"Hook'er to the Biler"

CRAIGE RIDGWAY & SON CO. Coatesville, Pa.

ELEVATOR MAKERS TO FOLKS WHO KNOW



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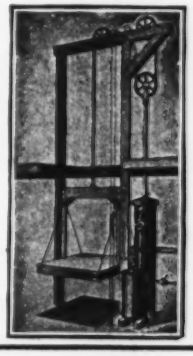

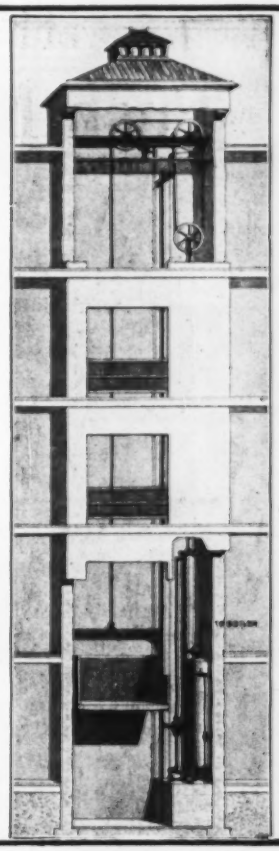

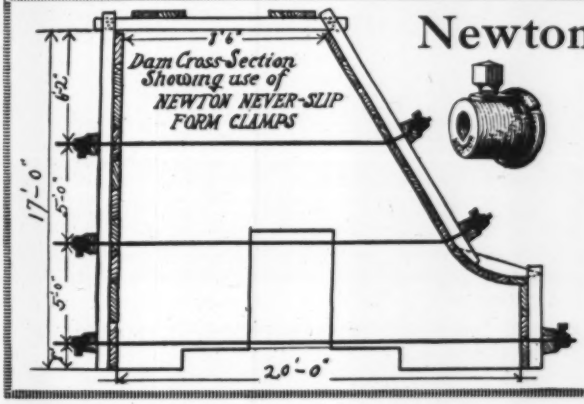

Newton Never-Slip Form Clamps

Make form work cost less

Quickly adjustable and when once set they can't let go until set screw is released. Can be used over and over indefinitely.

One ordinary laborer putting on Newton Never-Slip Clamps can do the work formerly requiring two form carpenters.

Newton Improved Clamps stand the strain because they're *made* right. Every one is tested separately to insure ease in operation. The set screws are the best obtainable.

The V-shaped hole enables each Newton Clamp to fit rods of various sizes. We will furnish sketches showing how Newton Clamps may be used on your job.

Send for free samples.

The Newton Rod Puller removes rods without a bit of jar—saves the rods.

The Newton Tightener Wrench applies the nut and screw principle to threadless rods.

Newton Manufacturing Co.

810 Walnut St., Kansas City, Mo.

C. R. Dodge & Co., 151 W. 42nd St., New York City

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in Engineering News-Record

In order to show you proofs, copy should be in our hands 3 *weeks before date of issue.*

When it is **not** necessary for you to see proofs, copy should reach us 8 *days before date of issue.*

Push Business—Avoid Hysterics

WE never do things by halves. The President's ringing declaration against German aggression has met with a country-wide response. But we are in danger of going too far, of becoming hysterical. In our enthusiasm to do all we can to help win the war, we may be prompted to practice economies that would hurt rather than help.

Howard E. Coffin of the Council of National Defense who, perhaps more than any other American, is in a position to see the trend in industrial affairs sounds the note of warning.

It is repeated here because it is the belief of ENGINEERING NEWS-RECORD that every engineer and contractor should read *and heed*.

Mr. Coffin's Statement:

"After nearly three years of refusal to take the European war and its lesson seriously, we have suddenly launched forth in a most feverish activity to save the country over night," he said to-day. "Patriotic organizations, almost without number, are milling around noisily, and while intentions are good the results are often far from practical.

"Because of an impending and possible shortage of foodstuffs we have hysterical demands for economy in every line of human endeavor. **Waste is bad, but an undiscriminating economy is worse.**

"Some states and municipalities are stopping road building and other public works. General business is being slowed down because of the emotional response of the trading public to these misguided campaigns for economy; savings are being withdrawn from the banks; reports show that some people have begun to hoard food supplies and thousands of workers are being thrown needlessly out of employment. All this is wrong.

"Unemployment and closed factories brought about through fitful and ill-advised campaigns for public and private economy will prove a veritable foundation of quicksand for the serious work we have at hand.

KEYNOTE OF MESSAGE

"It is true that the President has said that this is a time to correct our habits of wastefulness," he said. "Certainly, but the keynote of his message to the people was this paragraph:

" 'It is evident to every thinking man that our industries on the farm, in the shipyards, in the mines, in the factories, must be made more prolific and more efficient.'

"We need prosperity in war time even more than when we are at peace. Business depressions are always bad, but doubly so when we have a fight on our hands. The declaration of war can have no real evil effect on business. What bad effects are apparent are purely psychological, and largely of our own foolish making. For our markets are the same in April that they were in March. We need more business, not less. There is real danger in hysteria. **Indiscriminate economy will be ruinous. Now is the time to open the throttle.**

"Every day the advisory commission of the Council of National Defense receives offers of service from business firms and individuals, with requests for immediate information as to how this service may best be rendered. Now and then great dissatisfaction with the governmental departments is expressed because instant advantage is not taken of such offers. Many firms are hestitating to close ordinary business contracts because of a desire to hold capacity open to meet possibly early government need.

"This spirit and this willingness to meet sacrifice, and even financial loss, in the government service is a most encouraging tribute to American patriotism. But we must remember that in the great struggle in which we have now become a part there is much to consider besides munitions, troops and battleships.

FEW CAN BE HEROES

"Few of us can serve in any heroic role, or even in the supply of munitions to the military arms of the service. It seems to me, therefore, that a plain statement of general policy is most desirable.

"Upon the industrial side of the war three great problems—or perhaps I should better say tasks—confront us.

"First and foremost, we must facilitate the flow of raw materials and finished products to our allies, and must provide the means of rail and water transportation therefor.

"Second, we must meet our own great military and naval building schedules.

"Third, we must plan to do all this with the least possible disarrangement to our own vast commercial and industrial machines.

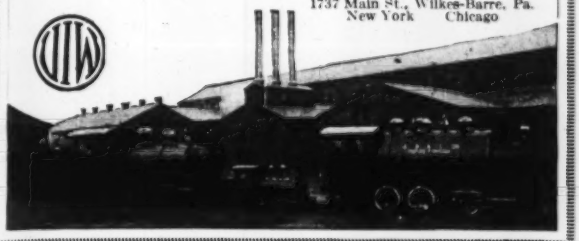
"Through it all we must keep a close eye upon the possible conditions of peace following the present war. We must insure the business success and general prosperity of the country during the war, if we are to hold our present strong place among nations in the commercial competition of the future.

"Patriotic service does not of necessity mean the making of shells or the carrying of a musket over the shoulder. This would soon become a sorry sort of country if it did. There is no doubt of the willingness of any manufacturing plant or individual to serve should the call come. But until the call does come it is best to stick on the job. Let us make 'better business' our watchword and keep our factory fires burning."

AFTER more than forty years, since their original purchase, some of the first customers are still buying

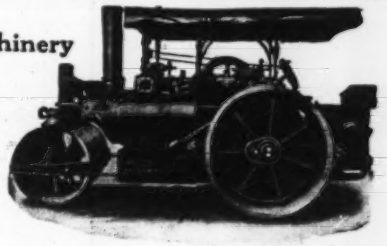
VULCAN LOCOMOTIVES

VULCAN IRON WORKS
1737 Main St., Wilkes-Barre, Pa.
New York Chicago



Quality Machinery

Buffalo Pitts Rollers



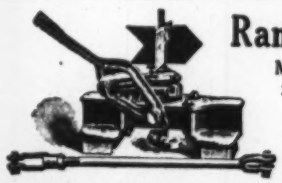
Are purchased by discriminating buyers because of the many years of satisfactory service which they will render, the low repair costs and their general reliability. *All sizes—all types—write for catalogue.*

Built Only by
THE BUFFALO-SPRINGFIELD ROLLER COMPANY
SPRINGFIELD, OHIO

Haul ⅓ More
Load your wagon with
Rapid Loaders
and keep the teams moving. Circular has all details—write for it now.
The Bonney Supply Co., Inc.
371 St. Paul St., Rochester, N. Y.

Contractors Cars

We build all styles of industrial cars, made of steel or steel and wood. Our 56-page illustrated catalog will give you some idea of the quality and extent of our line.
Ask for Catalog 706.
Easton Car & Construction Company
New Street, Easton, Pa.



Ramapo Iron Works
Main Office, Hillburn, N. Y.
New York Office, 30 Church St.
Switch Stands, Plantation Cars, Switches, Frogs, Etc.

INDUSTRIAL CARS

YOUNGSTOWN STEEL CAR CO.
YOUNGSTOWN, OHIO

New Railway Books

RAILWAY ESTIMATES

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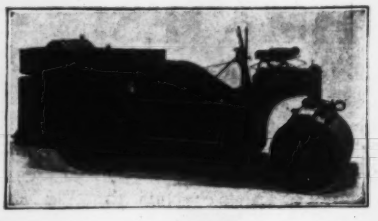

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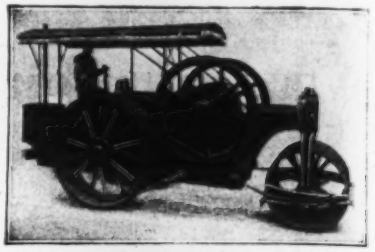

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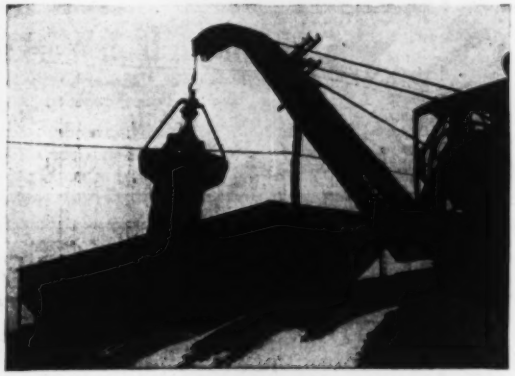

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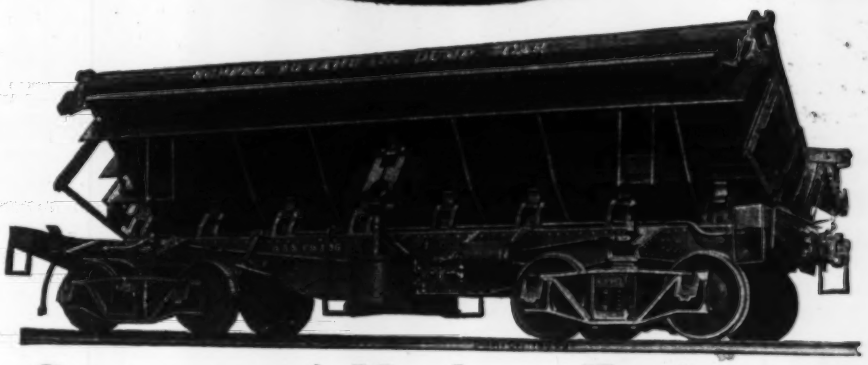

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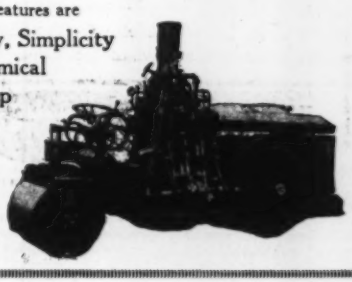

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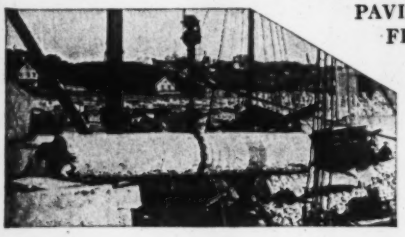

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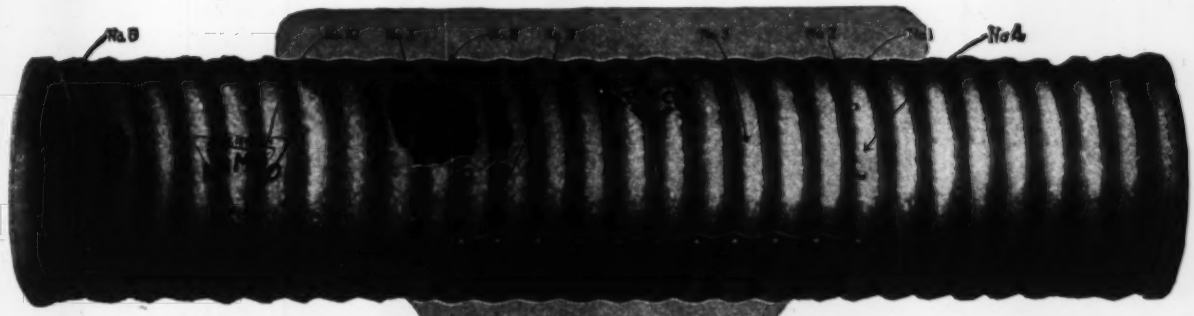

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8 **Toughness and resiliency** are qualities of thoroughly well made corrugated pipe. "Armco" Iron Culverts are capable of withstanding conditions caused by freezing and thawing or by settling and shifting foundations which are speedily fatal to many otherwise excellent constructions.

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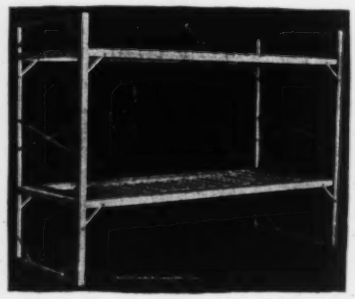

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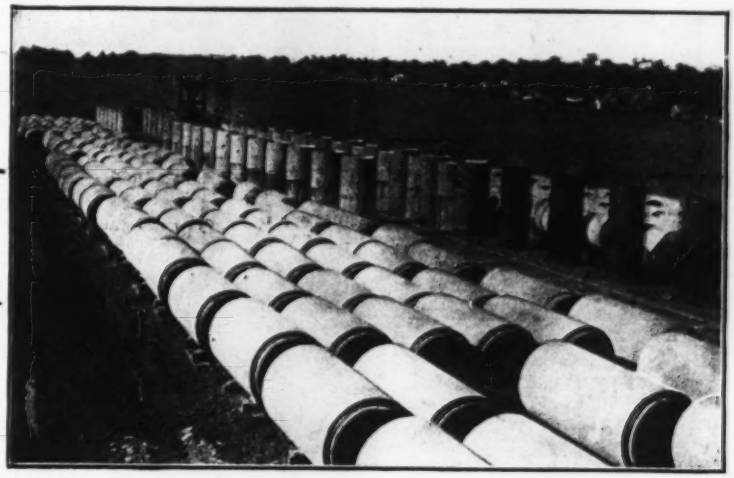

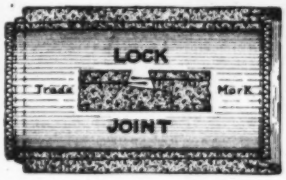

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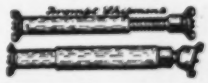

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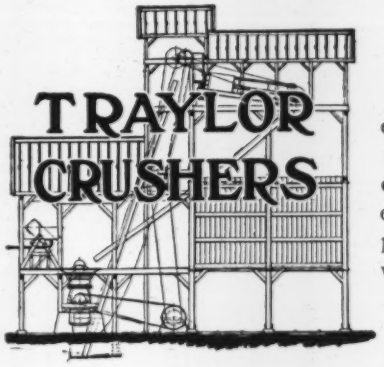


Our engineers have designed some of the largest crushing plants in the world.

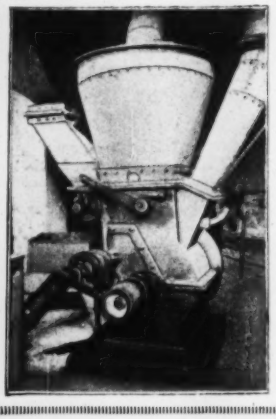
Call upon us for plans or specifications to meet your conditions. We will send one of our engineers to co-operate with you in the design and laying out of your plant.

Tell us your requirements.

TRAYLOR ENG. & MFG. CO.

New York Office: 32 Church St. **Main Office and Works:** Allentown, Pa. **Western Office:** Salt Lake City, Utah

U. S. A.



Pulverizing Machinery
used in producing a fine ground
Bauxite
for manufacturing
Alum
used in filtration plants.

We specialize in the manufacture of pulverizing machinery for the fine grinding of all materials to a powder.

Raymond Bros. Impact Pulverizer Co.
1302 N. Branch St., Chicago

BUCHANAN All-Steel Crushers
CRUSHING ROLLS—MAGNETIC SEPARATORS
Crushing Plants complete in all details from 100 to 5,000 tons daily capacity.
C. G. Buchanan Co., Inc.
Main Office: 90 West St., New York, N. Y.
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ROBINS CONVEYING MACHINERY

Our bulletins describe the successful solution of many materials-handling problems. Let them help you.

ROBINS CONVEYING BELT COMPANY

New York, 14 Park Row — **Chicago, Old Colony Building**
Salt Lake City, Newhouse Bldg. — **Birmingham, Ala., C. B. Davis Co.**
San Francisco, The Griffin Co. — Toronto, Gutta Percha & Rubber, Ltd.

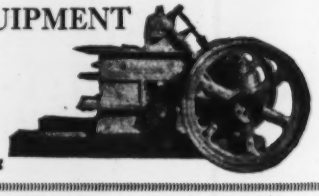
Watch WEBSTER

There's a full page in the second issue of each month which will tell you what you want to know about Webster Conveying, Elevating, Transmission Machinery.

The Webster M'f'g Co.
Tiffin, O. Chicago
New York

RELIANCE EQUIPMENT

Complete Crushing Plants
Road Oilers
Road Scarifiers
Street Sweepers



Universal Road Machy. Co.
KINGSTON, N. Y.
Branch Offices: Boston—Harrisburg

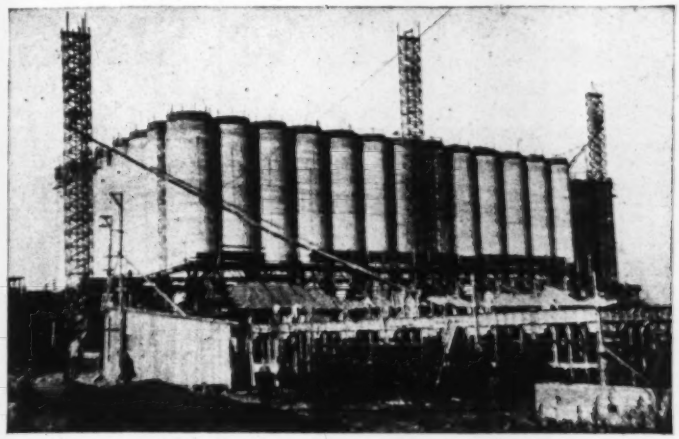
BACON ∿ FARREL
ORE & ROCK
CRUSHING ∿ WORLD KNOWN
ROLLS-CRUSHERS
EARLE C. BACON, ENGINEER
HAVEMEYER BUILDING, NEW YORK

Sell—Exchange—Rent

Some one is probably looking for those items you want to sell. The same person may have just the things you want to buy.

Let the Searchlight help YOU

53



The 6,000,000 bushel Calumet Elevator of the C. & N. W. R. R.

Used On Big Projects

Marsh-Capron Rail-Track Mixers are used on practically all the big construction work throughout the country. Recommended by engineers who have studied their simple, sturdy, wearproof construction. Demanded by contractors because they give

"Most Mixing — Least Fixing"

Write us for full particulars as to the proper equipment for producing most work at least expense. Our Engineering Department will gladly send you full details free upon request. Wire at our expense if you need prompt attention.

Building Mixers

Marsh-Capron Rail-Track Mixers are built in four sizes, and are furnished with steam, gasoline or electric power, with charging spout, batch hopper or pivoted side loader, in combination with hoists—in fact we furnish the machine which will give you greatest output and most profit.

MEMBER OF NATIONAL ASSOCIATION MIXER MFRS.

Paving Mixers

Marsh-Capron Pavers have all the advantages of the **Rail Track Mixers**, and more. Made in four sizes—from the largest paving mixer built to a one-bag machine. They may be had with end or side loaders. Can be used on large jobs in connection with industrial cars, with great success.

MARSH-CAPRON MFG. CO., 1475 Lumber Exchange, **CHICAGO**

4 Savings of the SPRACO Paint Gun

3—Time

If you've ever watched a painter or a group of painters in their efforts to give a structure or a piece of equipment a uniform coating—

You'll appreciate the speed of the Spraco Paint Gun and its happy faculty of *shooting* a smooth even coating free from brush marks—and with no spattering or splashing of the paint.

It's a big time saver in coating a hollow or inaccessible surface, too—

As you will learn from the booklet we will be glad to send you.

Spray Engineering Co., 93 Federal St. Boston, Mass.
Cable address: Spraco, Boston. Western Union Code.

Replies to

"WANT" and "FOR SALE"

Advertisements

in this paper may be keyed to our

CHICAGO, PHILADELPHIA or SAN FRANCISCO

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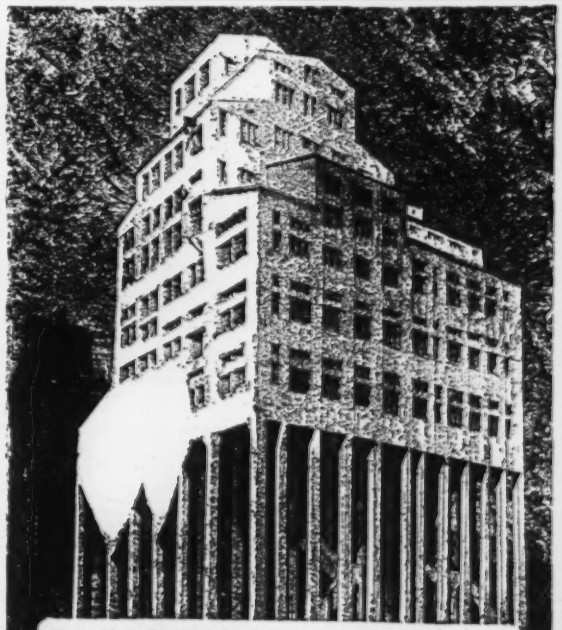
San Francisco, 501 Rialto Bldg.
Chicago, 1144 Monadnock Block 801

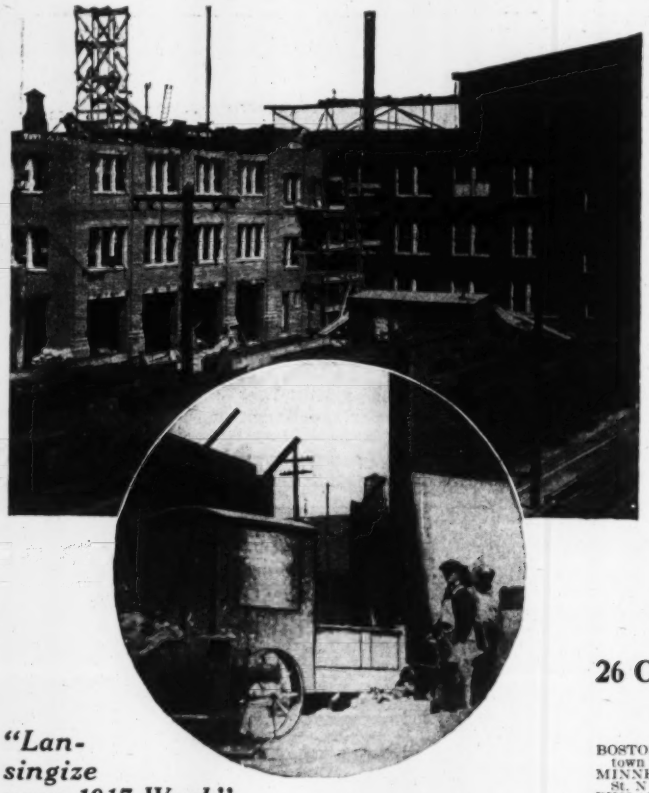


Hennebique Construction Co., Contractors © 1917, P. C. Co.

PENNSYLVANIA CEMENT

A Coal Breaker erected for the Lackawanna Railroad at Taylor, Pa.—the first to be built of concrete. Strength and permanence were ensured by the use of Pennsylvania Cement, noted for the *uniformity* of its high quality.

Pennsylvania Cement Co. 30 East 42d St., New York



"Lan-singize your 1917 Work"

The LANSING Mortar Mixer

is not a concrete mixer "made over"

It has the big advantage of being designed and built from the ground up as a mortar mixer. That's why it's so efficient. That's why it turns out a richer, stronger product with less lime. That's why you can get 2 men to do the work of 6 or 8 not using a Lansing. Every user will tell you "It's the best I have ever seen or used." There's one at work near you—write us and we will tell you the locality—then, *investigate.*

LANSING COMPANY
KEEP YOUR PRODUCT ON WHEELS

26 Cedar St., Lansing, Mich., U. S. A.

or address our nearest warehouse

BOSTON, 78 Cambridge St., Charlestown District.
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PHILADELPHIA, Willow and No. American Sts.
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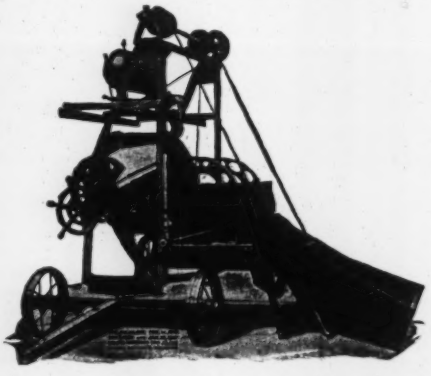
CHICAGO, 167-169 West Lake St.
NEW YORK, 288-289 West St.
KANSAS CITY, 1413-1415 W. Tenth Street.



WONDER MIXERS

Give longer mix and better quality with output equal to others of same capacity by reason of their short travel loaders. Or, if speed is the main thing you get more batches per hour with quality equal to any.

This is only one of the reasons why many of the largest contractors are *Standardizing* on the WONDER.

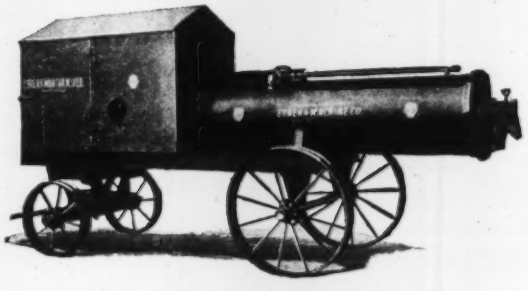
Ask us for more reasons.

Waterloo Cement Machinery Corporation

110 Vinton St., Waterloo, Iowa

New York Chicago Kansas City San Francisco

EUREKA



Mortar Mixer

The Eureka Mortar Mixer will enable you to fire three men from your mixing gang, and it will produce better mortar than you obtain by hand mixing. It produces a smooth and uniform mixture free from all lumps or sand pockets, with a big saving in lime. "You cannot afford to mix mortar by the man and hoe method."

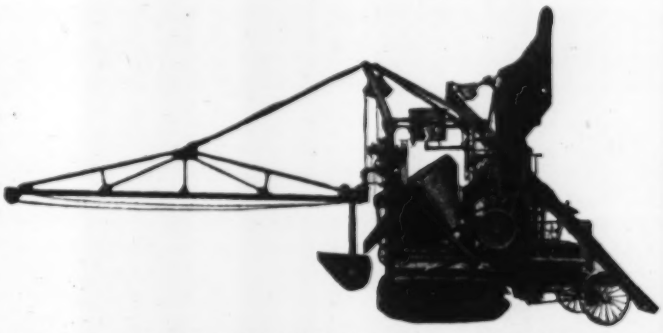
Also all sizes Concrete Mixers.

Send for our Bulletin No. 54.

EUREKA MACHINE CO.
105 Handy Street, Lansing, Michigan

MULTIPEDAL TRACTION

it will keep your Mixer out of the Mud



CUBE MIXING

the most perfect Mixing that Mixer service knows

THE FULL BATCH TURN-OVER BUCKET

designed by "Austin Engineering" to give

SPEED together with *PERFECT CONCRETE*

When concrete is poured into the bucket, the grout comes to the top—when emptied by turning over the grout is on the bottom—when tamped, the grout is forced up through the aggregate—and then you're certain to have a solid slab of concrete (there can't be any honeycombs).

The turn-over principle in operation insures *perfect concrete*, and the full batch adds *speed*.

The renewable drum plates insure long life.

We desire to give the contractor best possible delivery service, but to do so we require your co-operation—please let us know your needs well in advance.

Write today for Catalog No. 3 of the complete line of Austin-Cube Mixers.

MUNICIPAL ENGINEERING & CONTRACTING COMPANY

CONCRETE FOR PERMANENCE

CONCRETE FOR PERMANENCE — NATIONAL MIXER MFRS

Main Office: Railway Exchange Bldg., Chicago

NEW YORK OFFICE.....30 CHURCH STREET

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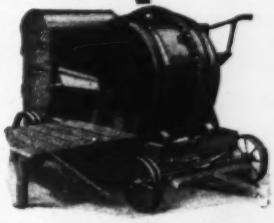
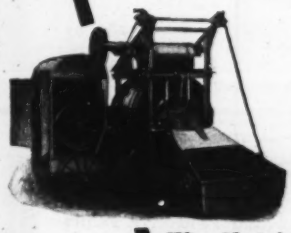
KNICKERBOCKER

Built for SATISFACTORY SERVICE —Gives It



In building for the need of the user for years, we have eliminated the user's troubles. For instance—to keep the user from pounding the loader, we build the mixing drum large enough to permit a large opening on charging side. This lets us make our loader very much wider at the discharge end than is found on any other mixer. That is what makes fast charging.



Other features, such as tracks that do not flatten—slop guards on both sides of the drum and fast discharging are explained in our catalog.

We build Mixers in twenty styles and sizes, also Mortar Mixers and Saw Rigs.

The Knickerbocker Company
400 Liberty Street, Jackson, Mich.

RANSOME

Contractors using the **Ransome Bantam Line of Mixers**

in building construction combine rapidity, efficiency and lack of waste with original low cost of equipment.

Write for catalogs.

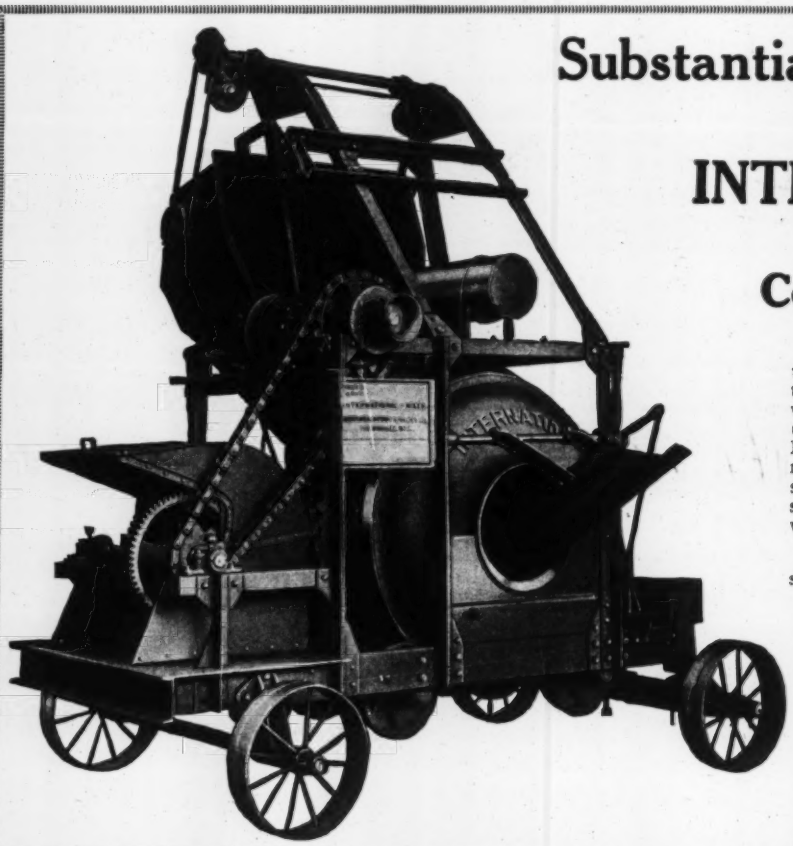
MIXERS

Everything from SAND PILES TO FORMS.
AGENTS IN EVERY LARGE CITY.

Ransome Concrete Mchy Co.
DUNELLEN, NEW JERSEY

Chicago 327 W. Chicago Av. — Executive Offices 115 Broadway, New York — San Francisco 418 Rialto Bldg.

NATIONAL MIXER MFRS



Substantial Construction

is the Keynote of

INTERNATIONAL

Motor Driven

Concrete Mixers

The illustration shows the International standard mixer mounted on trucks with side loader and automatic water tank, electric motor drive (chain) with steel motor housing. Note the frame of heavy steel channels, the angle-section overhead construction, the semi-steel drum, the self-oiling, ground and chilled tracker wheels.

Made in 7, 12, 15, 27 and 50-foot sizes.

Write for Bulletin 66A.

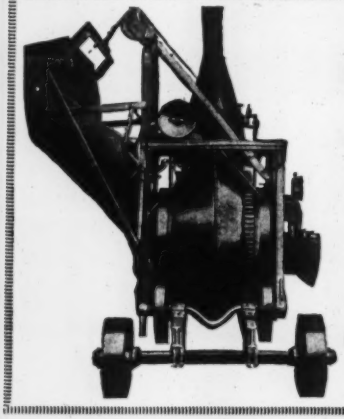
WORTHINGTON PUMP AND MACHINERY CORPORATION

Power and Mining Machinery Works

Cudahy, Wis., U. S. A.

Surburb of Milwaukee

M 427-4



FOOTE Concrete Mixers

"The Repeat Order Mixer"

C. Foote Mfg. Co., Inc.
Nunda, N. Y.

Send for Circular "B"

HAINS Gravity Batch Concrete Mixers and Controllable Discharge Bottom Dump Buckets

AUTOMATIC CONCRETE MIXER CO., Inc.
429 Kinsley Avenue - - - Providence, R. I.
Sole Makers and Distributors

Pneumatic Method of Concreting
(Patented)
for Tunnel Lining and Heavy Concrete Work
CONCRETE MIXING & PLACING CO.
123 West Madison Street, Chicago

THE OLDEST MANUFACTURERS OF HIGH GRADE PORTLAND IN THE WORLD. EXTRA QUALITY ALWAYS

CALSEMENT

AMERICAN 45 BROADWAY, NEW YORK GERMAN

The Fuller Engineering Company

Designing and Constructing Engineers

Cement and Hydrated Lime Plants a Specialty
Pulverized Coal Installations for Industrial Furnaces

Office: Allentown National Bank Building ALLENTOWN, PA.

"Homogeneous, FREELY FLOWING concrete"

Hydrated Lime Improves Concrete

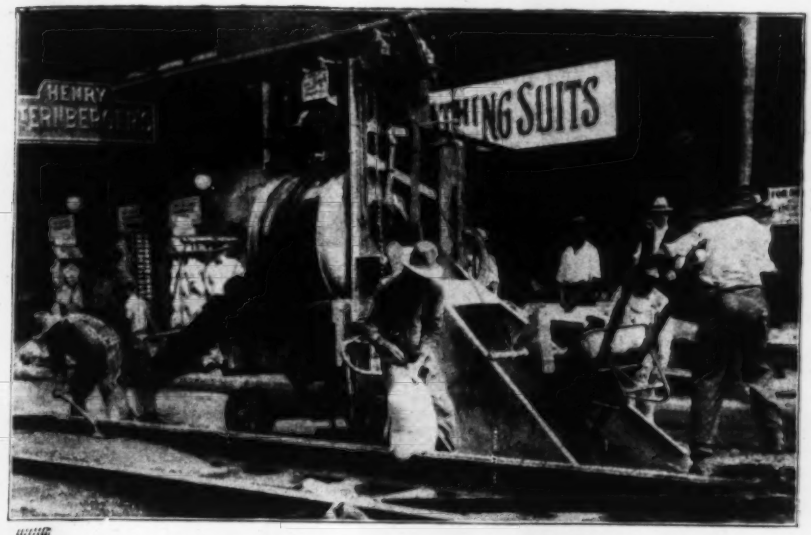
for data, address HYDRATED LIME BUREAU of the National Lime Manufacturers Association
1514 Arrott Building, Pittsburgh, Pa.

"Stronger, denser, waterproof concrete"

MINWAX

Waterproofing Materials and Protective Paints of proven dependability. **Send for the Bulletins.**

THE MINWAX CO. INC. 18 E. 41ST ST. NEW YORK



SPEED

The job was paving one of the busiest streets of Cincinnati. The street had to be re-opened for traffic in the shortest possible time and the pavement had to be placed without any interruption to car traffic (about 45 cars were passing hourly).

The Kirschner Construction Co., contractors, had to have a mixer that worked fast, that was easily handled, and that was compact enough to use in the narrow space between the curb and the car tracks.

They chose an Ideal Cincinnatus No. 14 Batch Mixer and in spite of all obstacles averaged 150 cu.yds. daily (8 hours).

We make a complete line of reliable Paving Mixers and sell them at reasonable prices. Write for catalog.

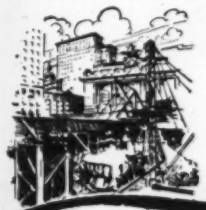
Ideal Concrete Machinery Company

1320 Monmouth Avenue, Cincinnati, Ohio

Windsor, Canada

The Problem of Maximum Strength With Minimum Area is Solved by

CONCRETE



Our skyscrapers, subways and increasingly large structures of every kind demand the use of materials of the highest standard.

FRENCH'S CEMENT

THE BACKBONE OF PERMANENT CONSTRUCTION

Samuel H. French & Co.

Established 1844 **Philadelphia**

Business Established 1832

The Lawrence Cement Co.

No. 1 Broadway **New York**

Selling Agents for

Dragon

PORTLAND CEMENT

In Successful Use Upwards of a Quarter-Century

Book on request showing uses and testimonials

"Concrete for Permanence"

DEXTER

for

Service and Quality

Dexter Portland Cement Company
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Concrete for Permanence

Write for FREE Pamphlet

"CEMENT SIDEWALKS"

Containing

Cellar Floors—Hard, Dustless Floors

VULCANITE Po tland CEMENT CO.
PHILADELPHIA **NEW YORK**

Cement Making Factories

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Plans, Estimates, Construction

Physical and Chemical Tests of Materials
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F. L. SMIDTH & COMPANY, Engineers

50 Church Street, New York

12 Years

OF PERFECT AND CONTINUOUS SATISFACTION

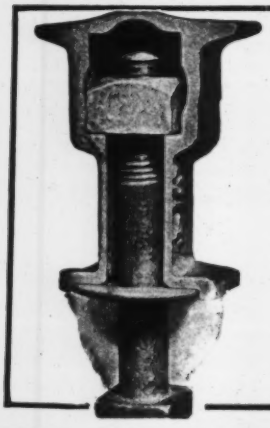
"ANTI-HYDRO"
FOR PERMANENT CONCRETE
HARDENS WATERPROOFS

That is the record of "Anti-Hydro" as a concrete hardener and waterproofer. Pits forty feet deep under the East River and pits ten feet below tide-water on the Jersey meadows, subjected to acid conditions inside, and salt water conditions outside since 1904, show no disintegration whatever. Mix "Anti-Hydro" with your cement and insure concrete that is lastingly hard, waterproof and acid, oil and alkali resisting. Ask us for more information about "Anti-Hydro" and list of installations, write for details today.

THE ANTI-HYDRO WATERPROOFING CO.

New York Office, Singer Bldg. Laboratory, Newark, N. J.

Branches at Boston, Detroit, Cleveland, Chicago, Buffalo, Louisville, Philadelphia, and Washington.



A Ceiling Socket that saves the Contractor's Time

Security Inserts not only make ceiling loads safe, but in addition they offer the contractor the quickest possible method of providing for such loads. They are easy to insert, are very simple in construction, and are strong and lasting. The concrete sets around them and grips them firmly. Sizes from $\frac{3}{8}$ to $\frac{7}{8}$ inches. **Ask for Security Bulletin.**

Security Insert Company

101 N. 33rd St., Philadelphia, Pa.

FAC-SIMILE OF LABEL

Cut the High Cost of Building

Save Approximately $1.00 per Barrel by Using

Brooklyn Bridge Brand Rosendale Natural Cement

Will lay more brick per barrel.
It has no waste. Free from grit.
It has strong adhesive quality.
It is a fireproof material.

100% is Cementing Material

Made in New York State

Ease and Speed of Installation

THIS exceptionally strong and fireproof construction is so simple in design that previous experience in its erection is not necessary. Erection drawings are furnished with each shipment, and each piece is cut to fit and marked to correspond with the identification marks on erection diagrams.

BERGER'S

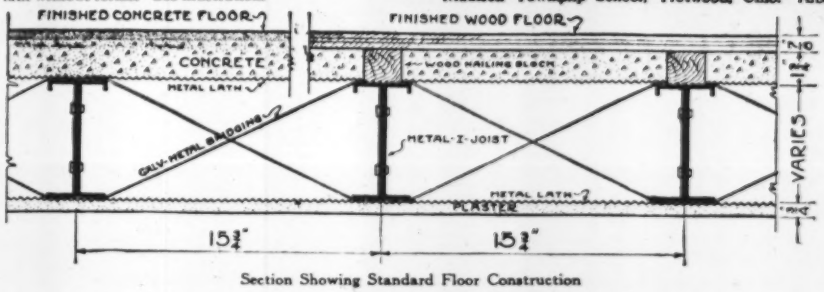
Metal Lumber

(Patented)

Standard Floor Construction

Joists—Set without forms or centering. **Bridging**—One inch flats nailed into webs of joists. **Metal Lath**—Applied to bottom by means of prongs. Laid on top of joists and nailed into web with roofing nails. **Wood Nailing Blocks**—Placed on top of and parallel to the joists and nailed directly into the web of the joist. **Concrete Fill**—1:2:4 mixture, applied on metal lath without forms. See illustration.

Madison Township School, Trotwood, Ohio. Albert Pretzinger, Architect, Dayton, Ohio



Section Showing Standard Floor Construction

Send for Technical Bulletin 12-E.R.

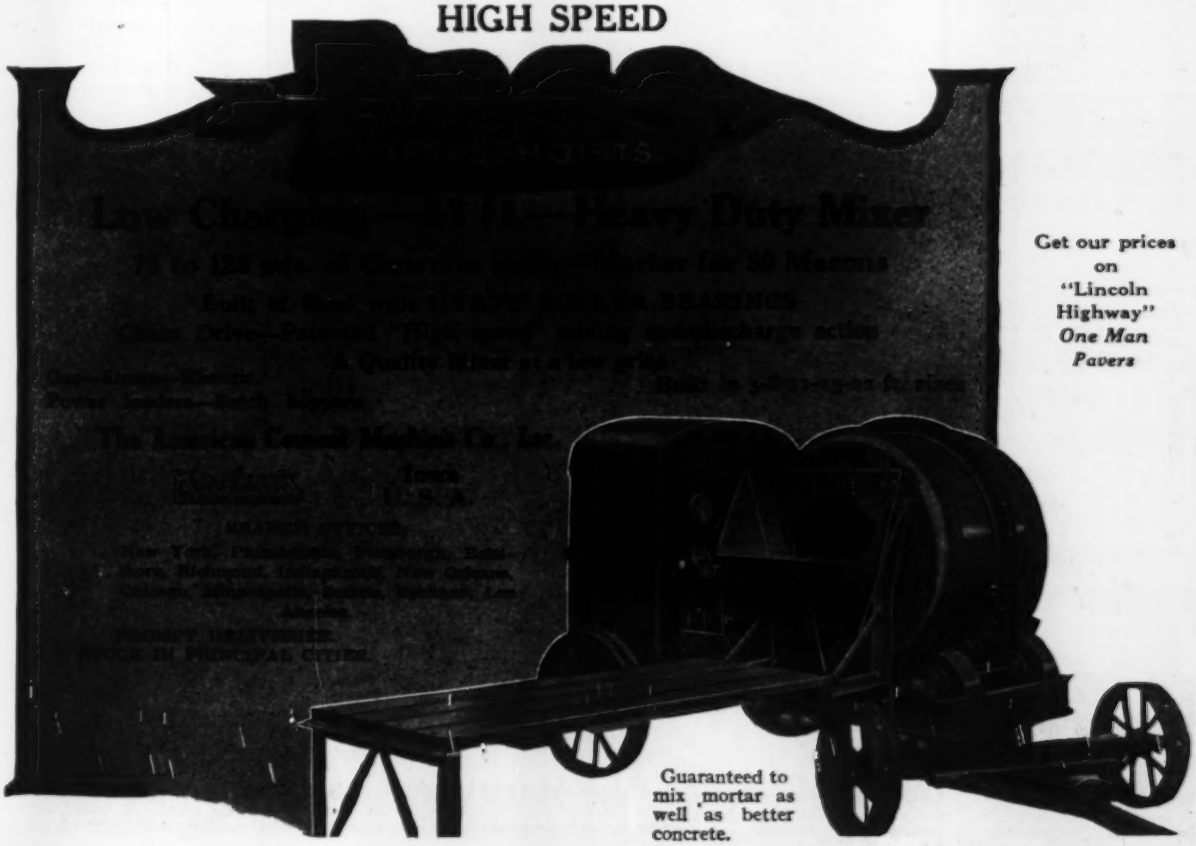
The Berger Mfg. Co.

CANTON, OHIO

Branches: Boston, New York, Philadelphia, Chicago, St. Louis, Minneapolis, San Francisco, Los Angeles

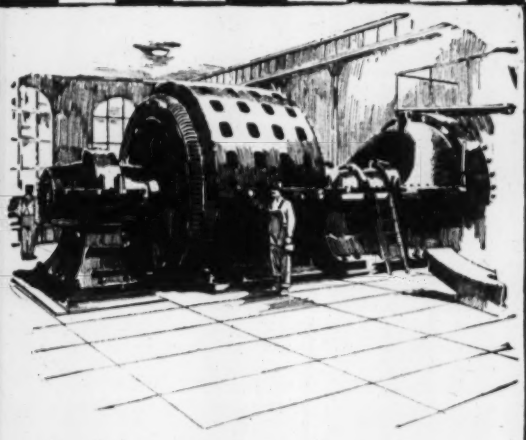
Export Dept.: Berger Bldg., N.Y. C.

HIGH SPEED



Get our prices on "Lincoln Highway" *One Man Pavers*

Guaranteed to mix mortar as well as better concrete.



What Do Your Floors Cost?

WE don't ask what they are *worth*—we ask how much they cost you in lost time, cost of maintenance and damaged machinery.

Perhaps it has never occurred to you that unprotected cement floors may be the cause of your machinery trouble. Perhaps you never realized that the fine, gritty dust from the floors is what makes your bearings run hot and your dynamos and motors to spark.

R.I.W. REMEMBER IT'S WATERPROOF **CEMENT FILLER & CEMENT FLOOR PAINT**
REG. U.S. PAT. OFF. PATENTED AS TO PORTLAND CEMENT POSITION

will make your floors durable, dustless and cheaper to maintain. Oil, water, and acids cannot soak into and soften the cement because the surface is scientifically sealed.

Floors treated with R.I.W. Cement Filler and Cement Floor Paint will not crack or disintegrate, and will give longer, cheaper and more satisfactory service all around.

They are specified by experts the world over.

Write for descriptive literature, Dept. R.

TOCH BROTHERS

Technical and Scientific Paint Makers Since 1848.
320 Fifth Avenue New York
Works: New York; London, Eng.; Toronto, Can.

R.I.W.
REMEMBER IT'S WATERPROOF
R.I.W.
REG. U.S. PAT. OFF.
STEEL NEED NOT RUST!
WOOD NEED NOT ROT!
NOR CONCRETE DUST!

Run of sash in Johnson & Johnson Bldg., New Brunswick, N. J., operated by our Rocker Shaft Type of operating apparatus.

L & B Apparatus Operates the Sash in Johnson & Johnson War Addition

Johnson & Johnson, manufacturing chemists, at New Brunswick, N. J., found themselves deluged with War orders. Found it necessary to add *three stories* to one of their large buildings. All sash in the addition are operated by L & B apparatus. Our deliveries notched right up to their rapid fire constructing pace.

The sash operating apparatus shown above, is on the third story of the addition.

It is of our Rocker Shaft Type. Operates 8 sash from each gear. Gear is placed in center of each run and worked by a hand chain. The sashes are hinged at the bottom and open *inward*. They can be operated with ease and held rigid at any angle. Simple. Durable. Dependable.

We have an apparatus among our three distinct types to solve *your* problem.

Send for Catalog.

Lord & Burnham Co.
Irvington, N. Y.

"MARITIMO"

Acid Resisting **Non-Inflammable**

Maritimo Coating
TRADE MARK

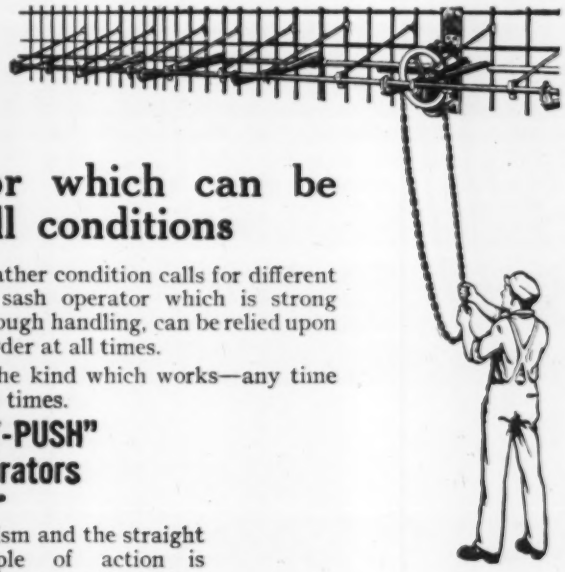
IMPERVIOUS COATING

For

Steel Pipe Lines Acid Tanks Steel Piling
Stand Pipes Gate Locks Service Water Tanks

Improved Method of Application Applied Cold

Maritimo Coating Corporation
Grand Central Terminal, New York City



The sash operator which can be adjusted to all conditions

Cold, heat, storm, clear—every weather condition calls for different ventilation adjustment. Only a sash operator which is strong enough to stand steady, and often rough handling, can be relied upon to be in working order at all times.

Make sure your sash operator is the kind which works—any time and at all times.

"STRAIGHT-PUSH"
Sash Operators
PATENTED

The spur gear mechanism and the straight push-and-pull principle of action is positive and proof against man-handling.

The G. DROUVÉ CO., Bridgeport, Conn.
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No Matter How You Order

"Franklin"

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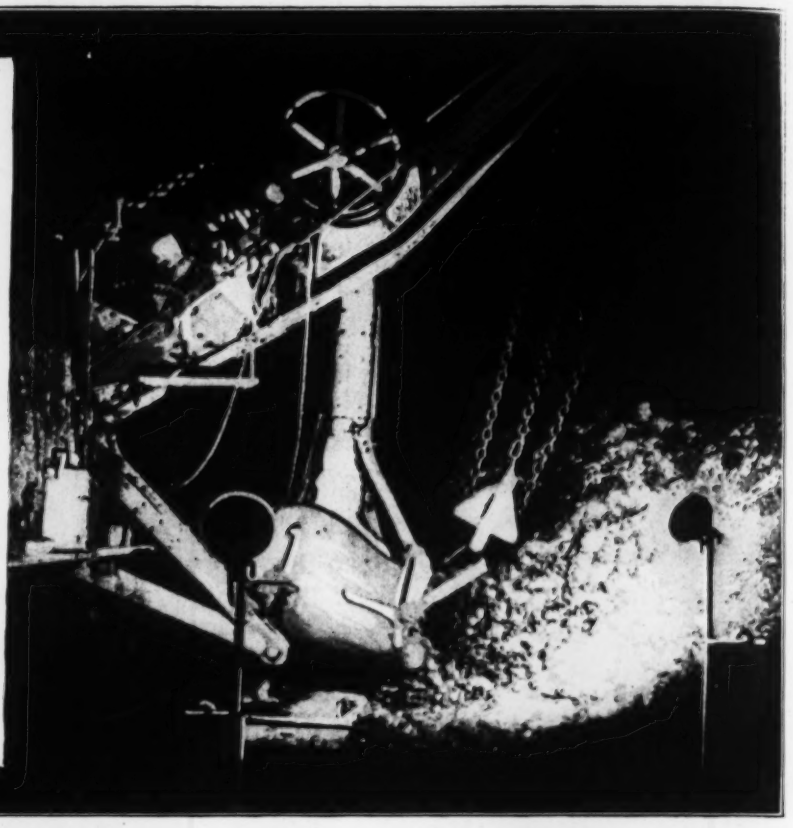

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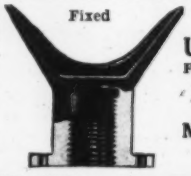

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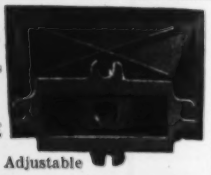

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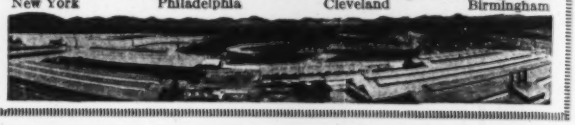

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or something you don't want—that *other* readers of this paper can supply—or use—advertise it in the

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NOW is the time to offer good second-hand machinery for sale. Demand exceeds production for immediate delivery of some equipment; that's why the market on used equipment is so good.

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26

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Rods up to 1¼ in. diameter.

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McKenna Power Bar Bender

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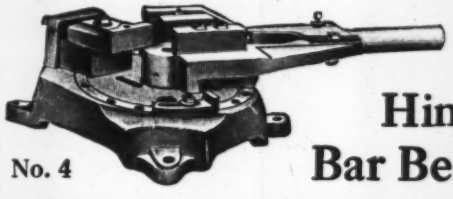

It's a Hinman Bar Bender

No. 4

This size (No. 4) has greater range for heavy work than any other bender on the market. It will bend cold stock up to and including 1¼ in. round, square or twisted bars. Also flats. Right angles of any desirable radius in one operation. Also hooks, U's and stirrups.

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The EFFICIENCY Bar Bender

A portable tool that can be kept in an ordinary tool box. It will bend any size bar to any angle—plain, round, square, twisted or deformed. It's very simple in construction, as you see; and Common Labor can operate it. It's the ONLY bender on the market that will bend *hooks on rods* in one operation. The LOW price will surprise you.

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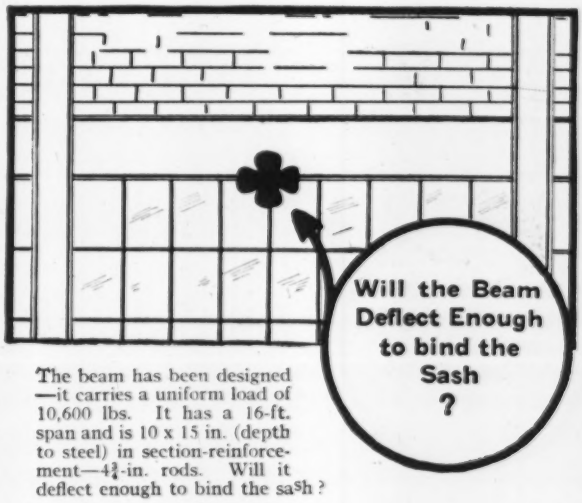

The beam has been designed—it carries a uniform load of 10,600 lbs. It has a 16-ft. span and is 10 x 15 in. (depth to steel) in section-reinforcement—4¾-in. rods. Will it deflect enough to bind the sash?

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The Engineer could solve this problem in 55 seconds and have proof of accuracy on a

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Details await your request.

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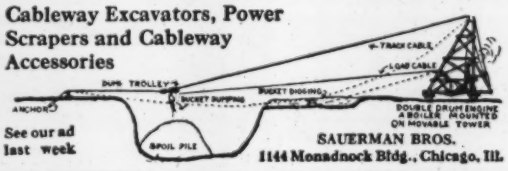

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Spans the cut. Built any width. Steel construction. Two men can operate. Equipped with oil engine. Ideal for clean out work. *Write for details.*

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REINFORCING CONCRETE

Manufactured by

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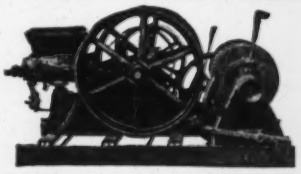

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Outwear 4 Welded Bands

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Difficult Foundations

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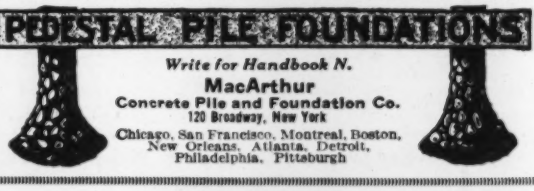

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LATEST DESIGNS Orders filled day received
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Special apparatus built to order

MINNEAPOLIS DIGS LARGE WATER MAIN TRENCHES WITH AN "AUSTIN

Digging a trench 20 ft. 0 in. deep, 72 in. wide, for 54 in. force main—the municipally-owned "Austin" maintained over a long period a very low cost of excavation.

This large "Austin" digs trenches up to 72 inches wide—adjustable side cutters furnished with all "Austins" enable each machine to dig trenches of various widths.

It's the exceptional ability of the "Austin" to dig constantly, under all conditions, that insures a low unit cost per yard wherever an "Austin" is put to work—Austin machines have proven their ability to dig successfully in any soil.

The superb Austin Multipedal Traction enables the machine to work on many days when other machines are compelled to remain idle—"Austin" quality construction is insurance against loss due to breakdowns. The use of belt permits of applying tremendous power, at the same time protecting the machinery and engine when digging shocks are encountered.

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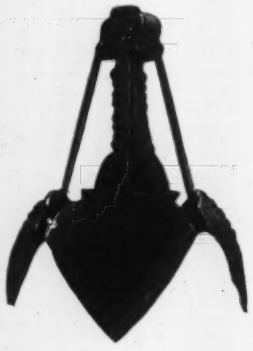

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The construction of this bucket is most substantial, being made of homogeneous steel plate of 60,000 pounds tensile strain. Bearings are steel bushed, removable and easily replaced.

The four blades which form the main body of bucket are made extra heavy, with the points reinforced and welded, insuring well-hardened points for penetration.

The lower casting on crosshead is made of cast steel, and likewise the top casting which receives the arms. The arms are made of heavy forged iron and steel bushed.

All sizes in stock for immediate shipment. We build buckets of all types.

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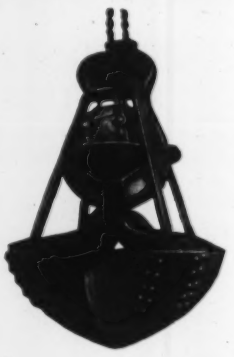

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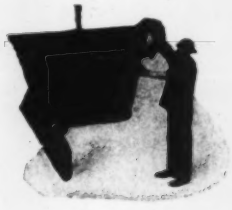
The full Stuebner line consists of Coal Hoisting, Mining, Excavating and Bottom Discharge Buckets — Steel Skips — Side and End Tip, Rotary Dump, Drop Bottom and Boiler Room Cars—Asphalt, Tar and Lead Melters, Hand Dump Carts, etc., etc.

Big Handling Capacity

and extreme durability are the foremost features of the

STUEBNER Hoisting Buckets

These steel buckets positively excel in efficiency. They effect a large money saving to the contractor on all work involving the handling of bulk material. *Write for Catalog "N."*



"Excelsior" Bottom Dump Concrete Bucket (Patented)

"Invincible" Bottom Dump Bucket (Patented)

Consult us on any bucket problem.

Self-Dumping and Self-Righting Turnover Bucket

G. L. Stuebner Iron Works

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"HUNT"

"Hunt" Noiseless Gravity Bucket Conveyors for coal, ashes, etc.

"Hunt" Automatic Railways for handling sand, ore, limestone, clay, etc.

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Labor-Saving machinery of low cost maintenance.

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Dake Hoists

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Chain or Wire Rope

Pay for themselves by economizing time and labor for you. A compact, strong, and safe hoist, fully guaranteed. Holds the load suspended at any point without power. Made in seven different models, and in ½ to 10 ton capacities.

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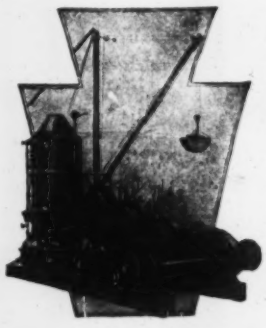
The heaviest hoist—for the heaviest jobs



That's the Flory. It is the heaviest hoist built.

FLORY HOISTS

have convinced many contractors of the desirability of this heavy construction. Not only does it make for longer life, but it enables the hoist to stand that "extra strain"—so frequently confronted in contracting work. **Send for catalog.**

S. Flory Mfg. Company

Bangor, Pa.

THOMAS HOISTS ELECTRIC, STEAM AND GASOLINE

Builders' Hoists
Incline Railway Hoists
Mine Hoists
Dragline Hoists

Two Speed Hoists for Slack Line Cableway Service Clam Shell Derrick Hoists

In Thomas Hoists are embodied the results of 20 years' experience devoted to exclusive manufacture of Hoists. We make a hoist for every class of service and have built our reputation on **Quality.** Write for catalog.

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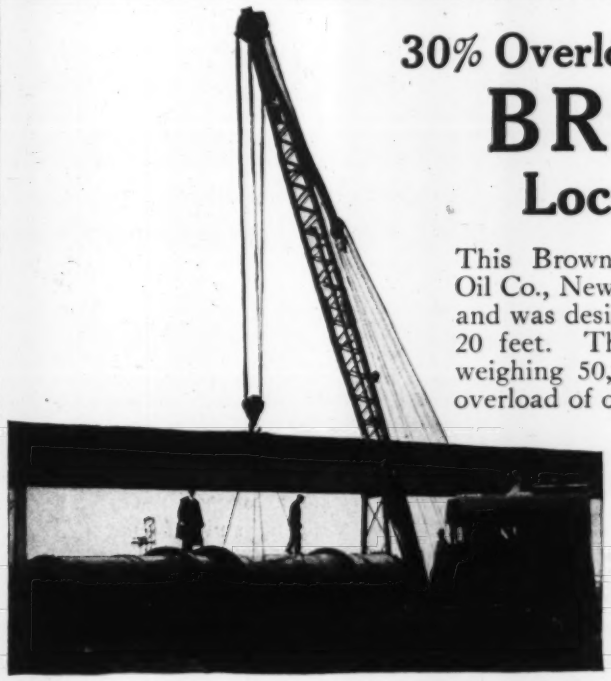

30% Overload Does Not "Stop" This

BROWNING

Locomotive Crane

This Browning Crane, owned by the Tidewater Oil Co., New York, is equipped with a 55-foot boom, and was designed to lift 40,000 pounds at a radius of 20 feet. The photo shows it lifting an oil mixer weighing 50,000 pounds at a radius of 22 feet, an overload of over 30%.

This is not an isolated occurrence, as "Brownings" are doing these unusual stunts regularly.

The great reserve strength of the Browning Crane makes it the favorite with contractors, as they know that it will not fail in an emergency.

The Browning Company, Cleveland, Ohio

SALES OFFICES: New York Chicago Philadelphia San Francisco

Throttle Digging Costs

Both the man at the engine throttle and the man at the expense throttle know and appreciate the ability of Hayward Buckets to dig deep, dump clean, work fast and wear slow. The best proof of decreased costs lies in their increased use.

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THE HAYWARD CO. 50 Church St., New York

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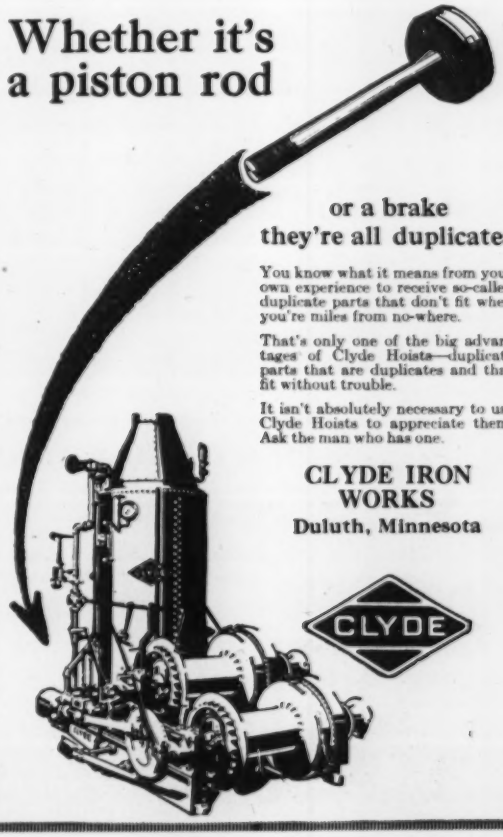
Whether it's a piston rod



or a brake they're all duplicates

You know what it means from your own experience to receive so-called duplicate parts that don't fit when you're miles from no-where.

That's only one of the big advantages of Clyde Hoists—duplicate parts that are duplicates and that fit without trouble.

It isn't absolutely necessary to use Clyde Hoists to appreciate them. Ask the man who has one.

CLYDE IRON WORKS

Duluth, Minnesota

CLYDE

11 Years Old and Still Young

This Williams 1½-yd. Type "B" Bucket started to work for the Erie Sand & Gravel Co. at Erie, Pa., in 1906. The picture shows it on March 3, 1917. This company uses Williams Buckets exclusively.

Williams Bucket

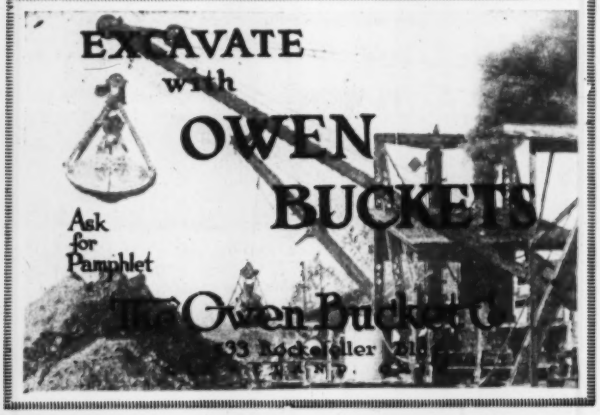
"Built to Dig and Last While Digging"

They live up to their name. They are built to give constant service. Built with large bearings and with well-guarded cables. They hold their alignment and stand the gaff in all kinds of digging and handling

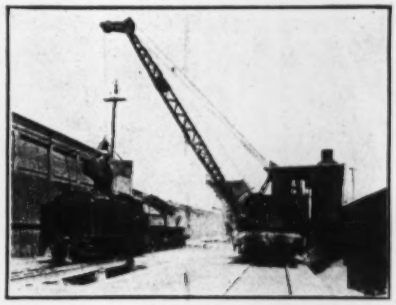
Special types to suit vour work.

Write for the latest Williams Catalog.

The G. H. Williams Company
Erie, Penna.



—In difficult work the—
O. S. Locomotive Cranes and Buckets
Insure satisfaction.



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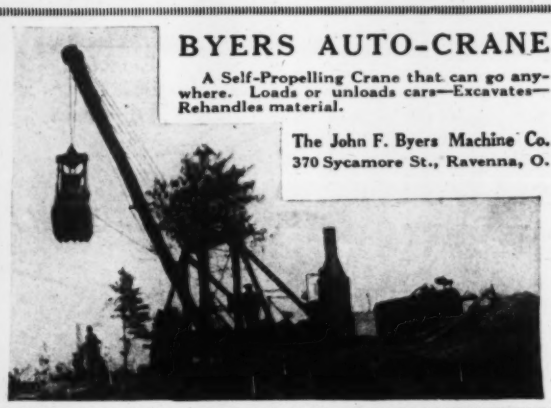
Superior Fabrication

Orton & Steinbrenner Co.
CHICAGO, ILL



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A Self-Propelling Crane that can go anywhere. Loads or unloads cars—Excavates—Rehandles material.

The John F. Byers Machine Co.
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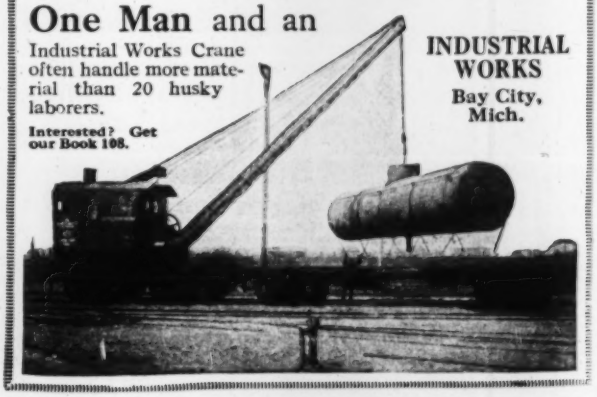
One Man and an Industrial Works Crane often handle more material than 20 husky laborers.

Interested? Get our Book 108.



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Bay City, Mich.

Ready for a twelve-mile jaunt—

The above photograph shows the Monighan Excavator walking right off the car under its own power—no Cables or Ropes.

It's ready now for a twelve-mile jaunt to the job—twelve miles over rough roads and mud holes, but the Monighan can be depended upon to steadily step right along until it gets there.

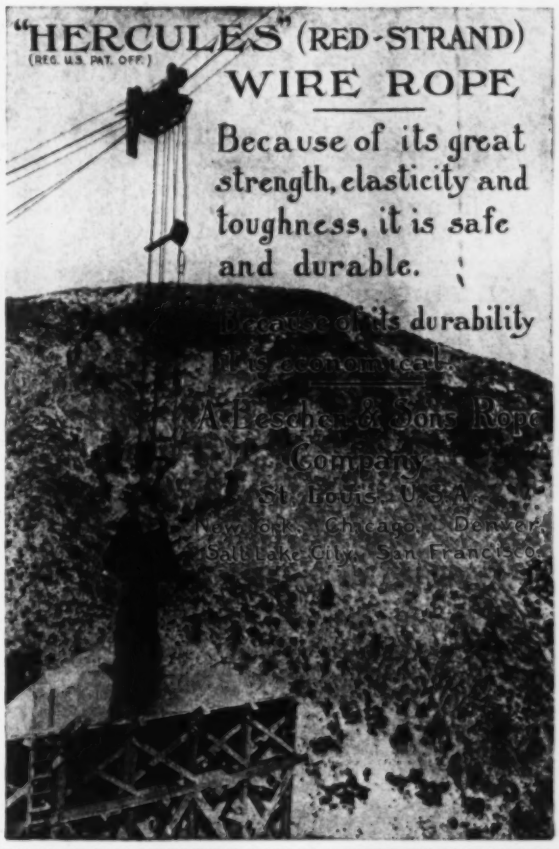
And when it gets on the job it will move a bigger yardage because there are **no delays due to traction**—no matter what the condition of the ground.

The Monighan will save you labor, save you planks—it will minimize delay—and save you trouble (lots of it).

It walks—it's easy to handle.

You should investigate.

Monighan Machine Co.
2024 Carroll Ave., Chicago, Ill.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The Standard Wire Rope
JOHN A. ROEBLING'S SONS CO.
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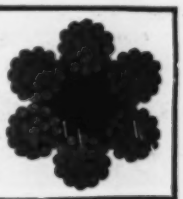

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FOR elevators, dredges, lumbering, mining, oil-well drilling, suspension bridges, stump-pulling, cranes, derricks, ships' rigging and every other form of wire rope use.

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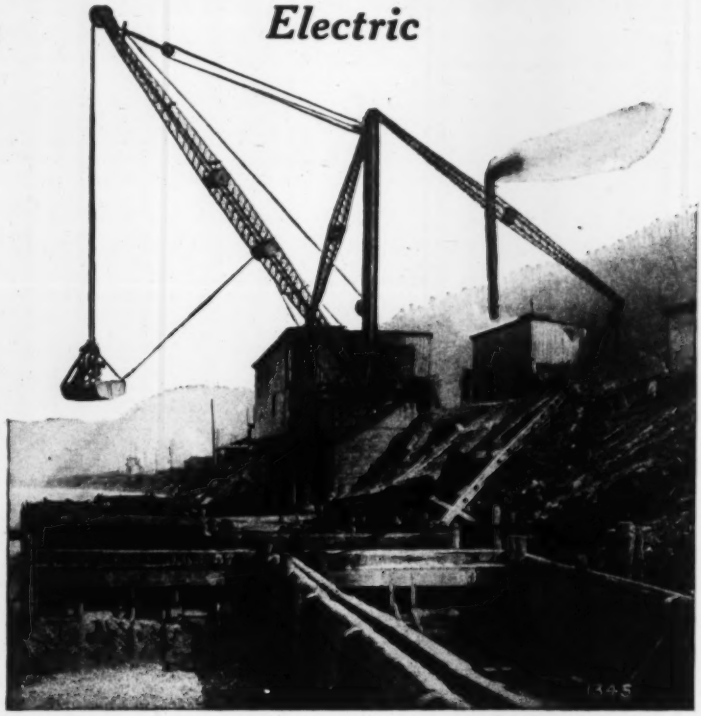
Steam *Electric*



In contracting and in industrial work, capacity of the entire plant depends upon continuity of operation.

Where hoisting is one of a series of operations, the hoist governs the capacity of the entire plant.

Speed and reliability of the hoist are absolute necessities.

Lidgerwood Hoists combine speed with a strength in every detail that insures reliability in operation.

Hoists for Every Service

Derricks—Cableways—Excavators

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Can *you* afford this?

Can you afford to use hand labor, in the face of conclusive proof that it costs 9 times more than it should? When a

BUCKEYE Traction Ditcher

can displace from 100 to 200 men, and dig trench for 1-10th the cost—can you hesitate?

Facts and figures eliminate all guesswork. Contractors everywhere have produced digging results with the Buckeye which fully back up all claims. Get direct evidence—let us send you the names of users in your locality.

The Buckeye Traction Ditcher Co.
Findlay, Ohio

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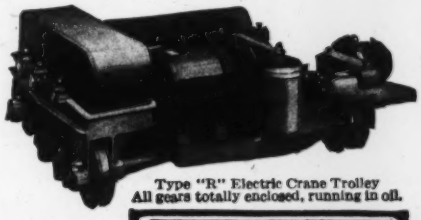

Type "R" Electric Crane Trolley
All gears totally enclosed, running in oil.

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Complete Foundry Plants

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FOUNDRY EQUIPMENT CO
HARVEY-ILL. U.S.A.

Cranes of All Types

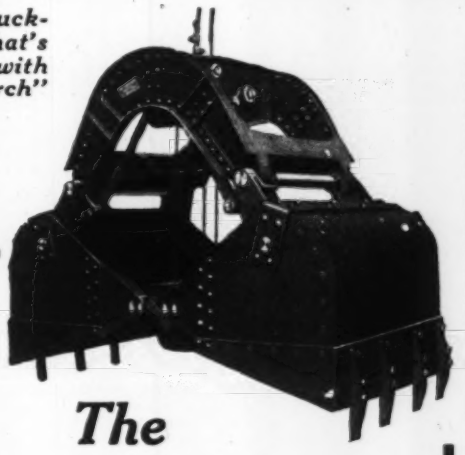
BROWNHOIST
Cranes and Hoists

Locomotive cranes, buckets, dragline excavators, crabs, winches, and concrete reinforcement. *Write for catalogs.*
The Brown Hoisting Machinery Co.
Cleveland, Ohio

OHIO
LOCOMOTIVE CRANES

OHIO LOCOMOTIVE CRANE CO.
MANSFIELD ST. BUCYRUS, OHIO

"The Bucket That's Built with an Arch"



The Buffalo Bucket

Let this steel arch yoke take the strains and shocks of your digging. Drive the bucket to the limit of its capacity—you will find no tendency to bending or failure in any part.

Sheaves of generous diameter and straight line reeving remove another prolific cause of digging trouble.

Write for the descriptive bulletin.

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133 Erie Street, Buffalo, N. Y.
New York Office, Room 426—30 Church St., C. E. Forsythe, Mgr.

Marion

Steam Shovels, Dredges, Draglines and Kindred Machinery

THE Delaware, Lackawanna & Western Railroad is not only a large user of Marion Shovels itself, but the contracting firms doing the bulk of its new construction work employ "Marions" also. Among these, The Hyde-McFarlin-Burke Co., New York, use the Model 28 shown here for

Filling, Grade-Straightening and Grade Reduction on the D., L. & W.

through sand, hard-pan and old ballast—some hard to dig, and some easy. Hyde-McFarlin-Burke own 7 shovels—5 are "Marions."

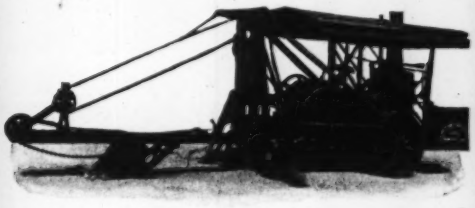
Repeat orders for "Marions" naturally follow the original purchase because *"Marions" are made to make good.* Write us about *your* digging problems; we will gladly help you. No obligation.

The Marion Steam Shovel Company, Marion, Ohio
Branches: Atlanta, Chicago, New York, Philadelphia, San Francisco, Seattle
213 ESTABLISHED 1884

KEYSTONE

Road Grader
Bank Dipper
Ditcher
Cellar Digger
Back Filler
5 in 1

Don't buy 40 tons of equipment if one *Keystone* 10-ton Traction Shovel will take care of all your work.



THE machine is sturdily built and will stand up, too, but it is unusually light, and will move about hard digging in cement gravel or old macadam; rapidly on its own power without danger of going through country bridges and culverts. Skimmer and Dipper Scoops hold one-half yard. Loads 1½ yard wagon in 1½ minutes. Average daily output 250 to 400 cubic yards. Has dragline ditcher scoop for trenches, cellar digging, back-filling, etc. Ditching capacity 150 to 300 cu.yd. per day. Excavates to a depth of 20 ft.

The eleven-foot horizontal crowding movement and powerful thrust make it more efficient than other machines for shallow grading in hard material.

Saves you money in first cost, operating and moving charge, and upkeep.

Write nearest office for catalog, prices and list of near-by owners.

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BEAVER FALLS, PA.

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Keystone Well Drilling Machines **Downie** Deep Well Pumps

STEAM SHOVELS

For Speedier Digging the
PIONEER BACK-DUMP BUCKET

THE first consideration in an excavating outfit is—**speed.** The PIONEER dumps through a hinged door in the rear of the bucket. The whole heavy bucket does not have to swing down, as in other makes. No moving parts, except this rear door. Bucket may be dumped when it is almost resting on the screen, and it dumps in a direction away from the mast. Write for printed matter.

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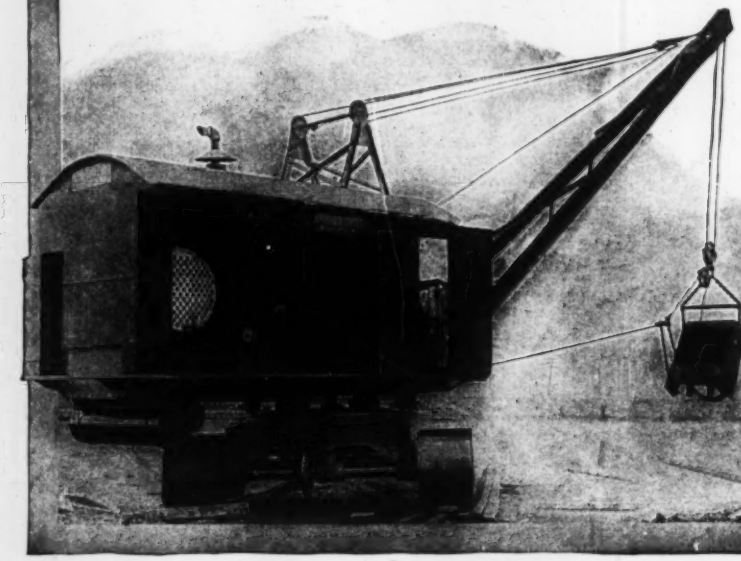
A P & H Drag Line Excavator

Built in sizes that will swing boom 40′ to 125′ in length.

Buckets from ¾ yd. to 4½ yd.

Operated by steam, electricity or internal combustion engine power.

Propelled on power traction wheels, corduroys, skids, and rollers or trucks.



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Drag Line Dept.

Pawling & Harnischfeger Co.
Milwaukee, Wis.
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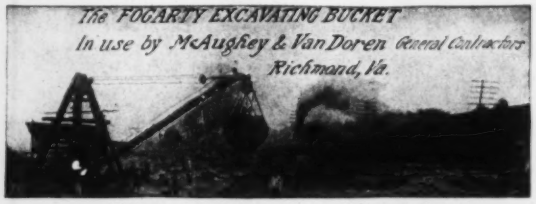
Manufacturers of Back-Fillers, Power-Tampers, Trench Excavators and Traveling Cranes



"Principally a digger—then all the rest"

FOGARTY EXCAVATING BUCKET

On an entirely new principle, the bucket is attached directly to the boom. Weight of boom and bucket **help the closing line** in digging. Then the lifting line pulls, after the bucket is full. Write for Catalogue and full particulars.

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The American Steam Shovel

Strictly a Contractors' Shovel. Revolving Type. Handy to operate. Quick in accomplishment. New catalog. Send for it.

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They lower the full load with absolute safety by pressing the button—you do not have to pump or crank them down as with other jacks.

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"Nothing to do but TURN"

All sizes from 7 ins. up

Save money on bridge work or other jobs where nuts have to be seated or removed, by using the

Lowell Reversible Ratchet Wrench

It encloses the nut on all sides and can be worked in small space.

It is **safe.** It is **sure.** It is **quick.**

Supplied in all lengths of handle and for all sizes of nuts.

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Its mechanical excellence and fitness for modern needs entitle it to the highest consideration.

If you are interested in the equitable and economical distribution of water, THE KING Disk Meter will appeal to you.

Its construction presents no experimental devices of undetermined value.

It is a sound and sensible embodiment of features which the unfailing test of time has qualified for existence.

Nearly 40 years of organized effort lie behind it.

THE KING Disk Meters are described in detail, by word and picture, in Catalog 466. A copy sent promptly upon request.

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If you only knew the time saved

Built strong for rough usage.

you would use only the **FAVORITE** reversible ratchet **WRENCH** on nut turning.

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Water Meters

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This light, durable machine will be sent on approval for 30 days' trial. If not as represented, send it back.

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Write for latest bulletins of this and other waterworks appliances.

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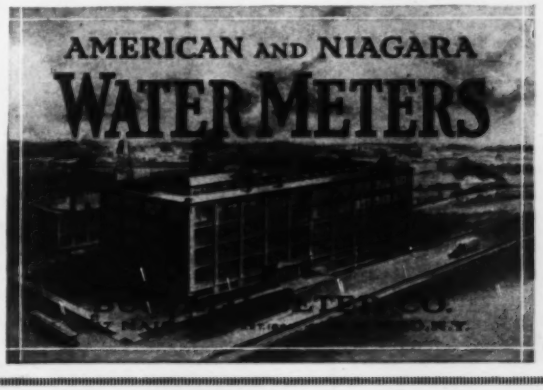
AMERICAN AND NIAGARA

WATER METERS



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The Reliance Irrigation Meter is of simple construction, low in cost, always accurate, easily read. There are no bearings under water, no clocks, no ink or pencil or paper. Registers by same method as ordinary house meter.

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RECORDING INSTRUMENTS
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Some other reader may have just what you want—and he may be in the market for the items you wish to turn into cash.

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AUTOMATIC GATES

American patents controlled by the owners, BARRAGES AUTOMATIQUES S.A., ZURICH, SWITZERLAND

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Eastern American Representative

Agents wanted in the Western States.

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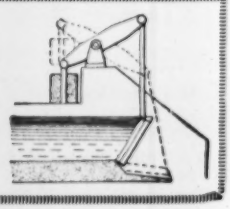
MANY STYLES



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Everything for the Pipe Line

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Standard Pattern

Brass globe, angle, cross, check and Y. Do not give out in service, nor require replacement. Will give years of service with but little attention or repair expense. The dependable, inexpensive Jenkins Disc takes the wear, besides making the valve perfectly tight. For steam use specify Jenkins No. 119 Disc; for cold water, Jenkins No. 93.

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Valve Boxes Indicater Posts Air Valves

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All Sizes All Pressures All Purposes

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Hydraulically and Electically Operated Valves and Sluice Gates Valves Designed for all Kinds of Service.

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The Chapman Valve Mfg. Co.

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Branch Offices and Agents with Stock in Principal Cities.

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This cut shows the R-W Screen in action. Note the large amount of screenings brought up from the sewage. These are removed above sewage level by revolving brushes. Write for bulletin.

ANSWER:

The Sanitation R-W Process

A single small house can contain the R-W Screen and revolving brushes that constitute the mechanism of this process. And the *results?* The screen revolves, bring up *fresh* sewage—non-disintegrated solids—which are promptly swept off for disposal, as desired. Daytona, Florida, solved this very problem in this manner.

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Riveted and Welded Steel Plate Construction
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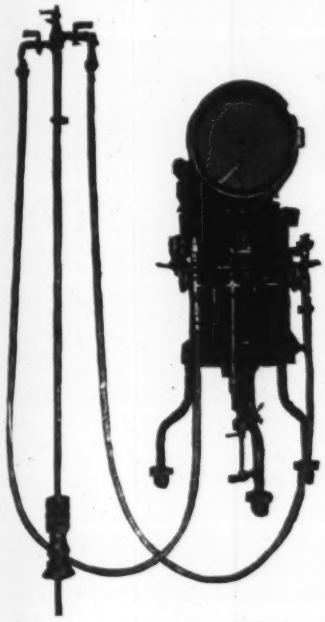
See our illustrated ad—in first issue of each month

Mr. Manager, What About Your Water Waste?



Pitot Tube Waste Detector

You cannot be sure that everything has been done to eliminate preventable water waste without a comprehensible survey of the losses in your plant and distribution system.

Leading water works have decreased their losses from 10 to 30 per cent. by the use of the

SIMPLEX WASTE DETECTOR

This simple, portable instrument operates in conjunction with Pitot tube, which can be inserted at strategic points to measure the leakage losses in the various sections of the piping system.

Flows down to one-half a foot per second are accurately recorded.

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"You fellows give too much for the money"

That's the report our Chicago representative forwards from the Superintendent of a Water Department that, for the past several years, has had an installation of

"W & T" Chlorine Apparatus For Purifying Water

The original "W & T" Apparatus had given such satisfactory service since installation that this Superintendent would not consider changing to a more modern type. "W & T" Equipment gives longer service because it is designed and built *by experts in the control of chlorine.* It is made of materials that will last. We *could* make a chlorinator that would run for a few months without using silver, platinum, tungsten, monel metal, etc.—but we'd only sell you *once.* No one who has ever purchased a "W & T" equipment has ever purchased any other make subsequently. **Write for Technical Publication No. 1R.**

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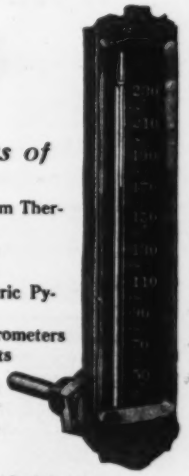
It Stands for Temperature Instruments of the Highest Quality



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Automatic Temperature and Pressure Regulators
Mercury Vacuum and Absolute Pressure Gauges
Engraved Stem Thermometers
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For years to come it will stand up as NATIONAL QUALITY pipe and tanks always do. Never bursts from freezing.

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for hydro-electric plant.
Maximum head nearly 300 feet.

The staves are Washington yellow fir, the best timber that can be obtained for this purpose on account of its structural strength and durability.

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Wood pipe will not contaminate the water passing through it nor will it become corroded by the liquid.

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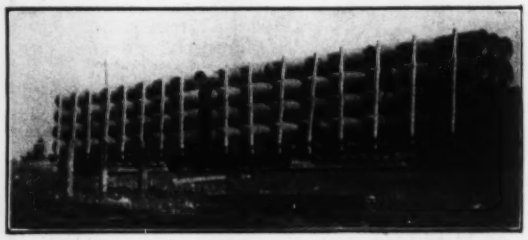

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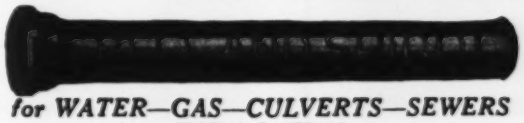

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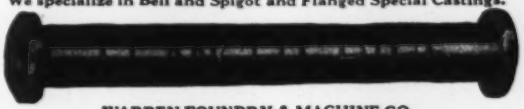

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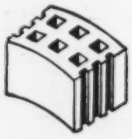

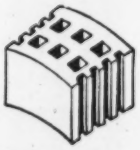

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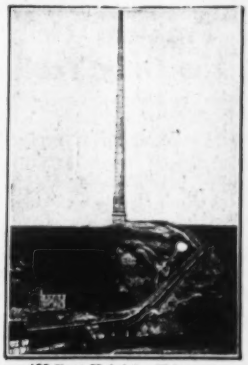

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AS AN EXAMPLE OF UNDIVIDED RESPONSIBILITY

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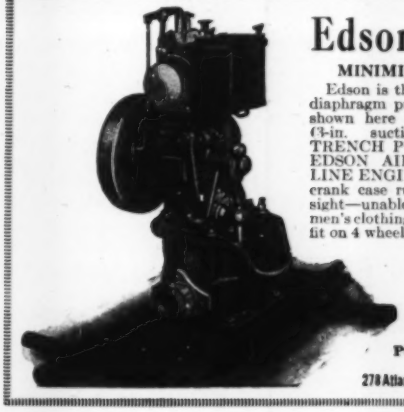

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MINIMIZE ACCIDENTS

Edson is the last word in power diaphragm pumping. The outfit shown here consists of a No. 3 (3-in. suction) DIAPHRAGM TRENCH PUMP attached to an EDSON AIR COOLED GASOLINE ENGINE. All gears are in crank case running in oil—out of sight—unable to catch in workmen's clothing. We can supply outfit on 4 wheel hand truck if desired.

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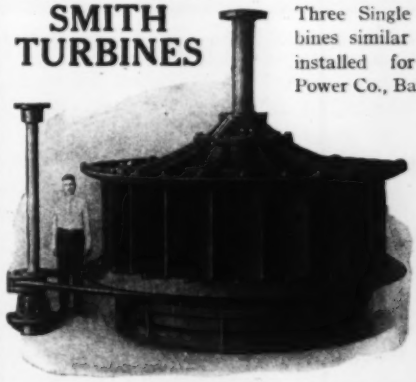

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900 H.P. each
90 R.P.M.
15 Feet Head

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They excel in efficiency and endurance. Built to operate against all heads up to 125 feet. Perfectly balanced laterally. No end thrust. Not high in price.

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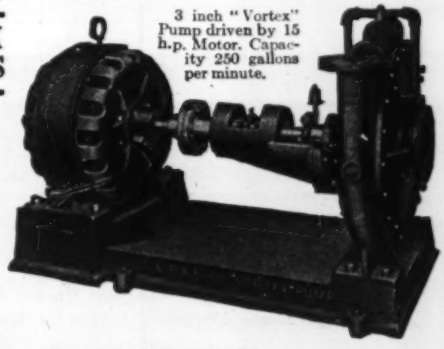

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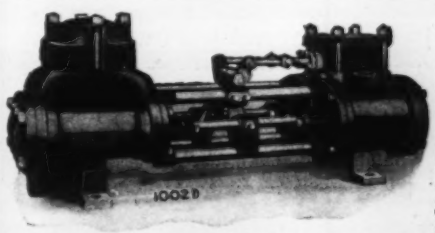

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Holyoke Test 2363—October 7-8 1914

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.89	16 ft.	200	10,500	277.75	87.51
.80	16 ft.	200	9730	267.20	90.70
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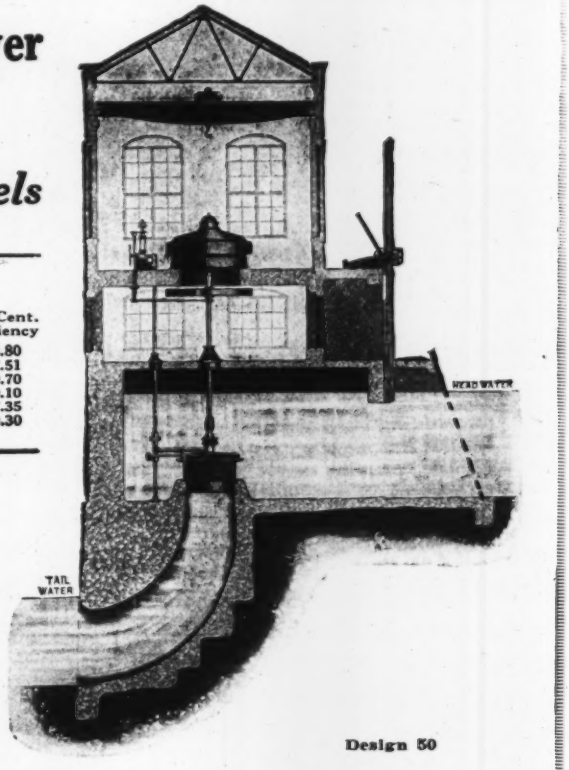

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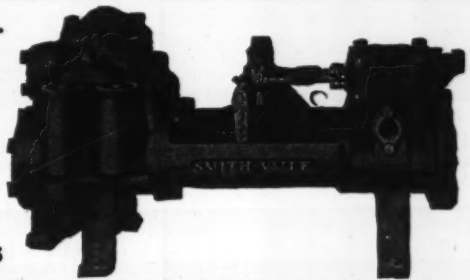

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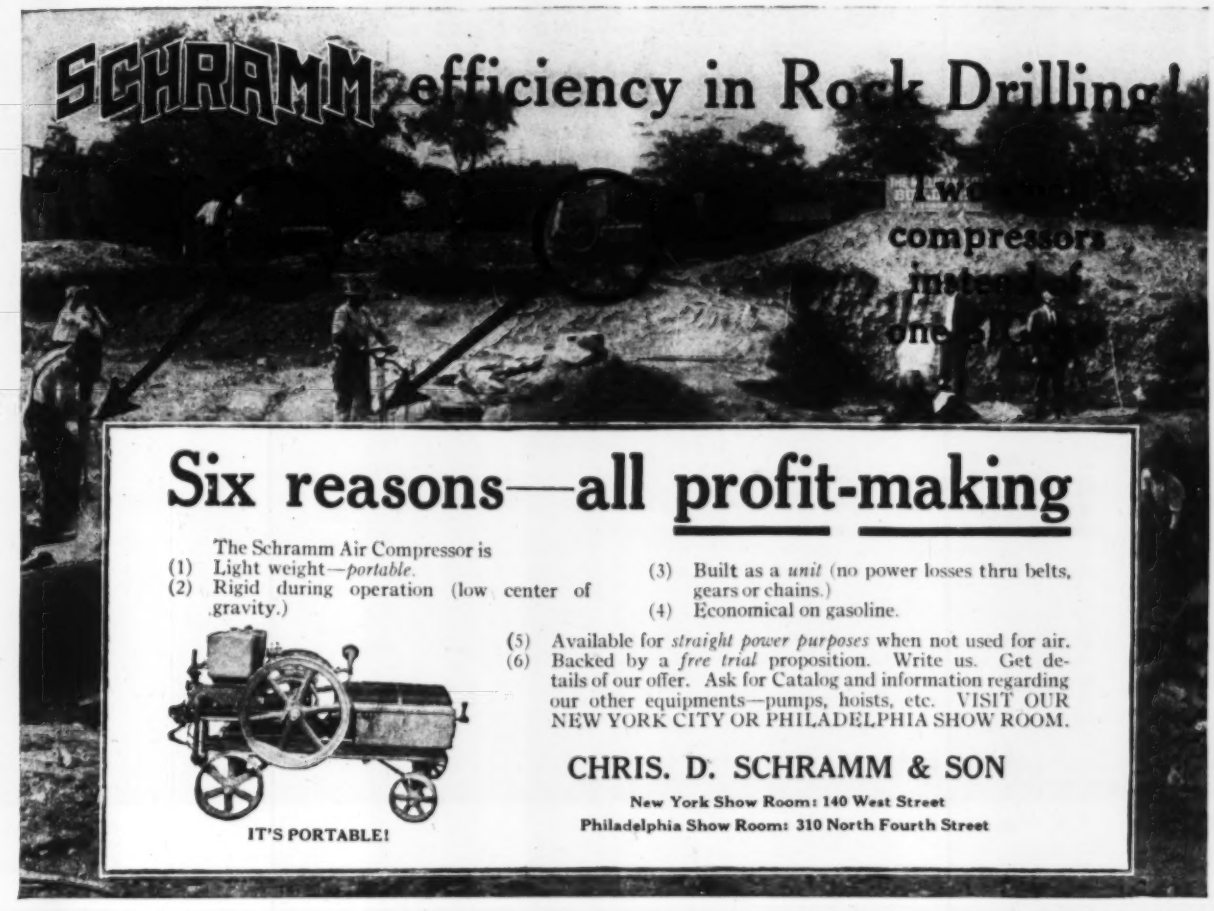

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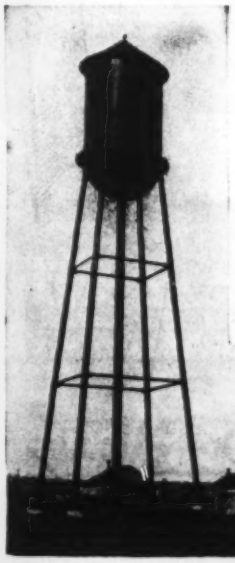
spell economy and improved service for municipalities that take their water from wells.

THE SULLIVAN AIR LIFT



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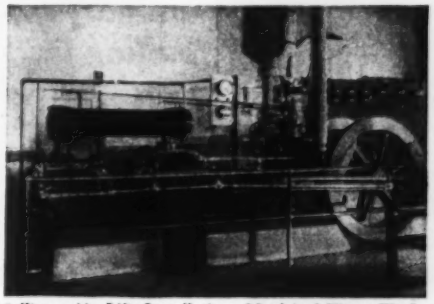
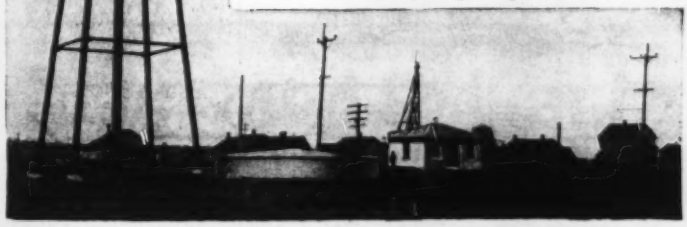
3. **Purer and "softer"** water, due to aeration.
4. **Greater simplicity** and reliability. There are no moving parts in the well.
5. **The apparatus** is always in working order; not affected by mud or sand.
6. **Efficiency** kept up to original point at all times and after long use.
7. **A scattered group of wells** can be pumped as readily as one well.



Sullivan Air Lift Installation, Municipal Water Works, Buhl, Minnesota. The air lift raises the water into a reservoir, from which it is forced into the standpipe or the mains by centrifugal pumps. The compressor is a Sullivan "WB2" two-stage machine.



Ask for new Air Lift Bulletin No. 471-*C*

Sullivan Machinery Co.

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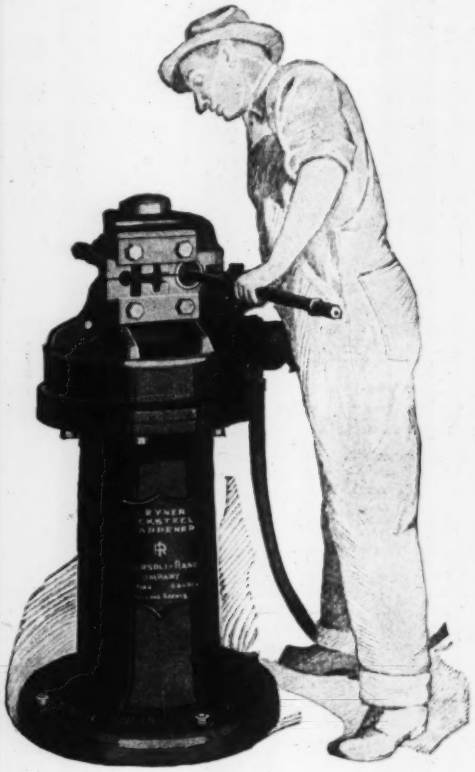

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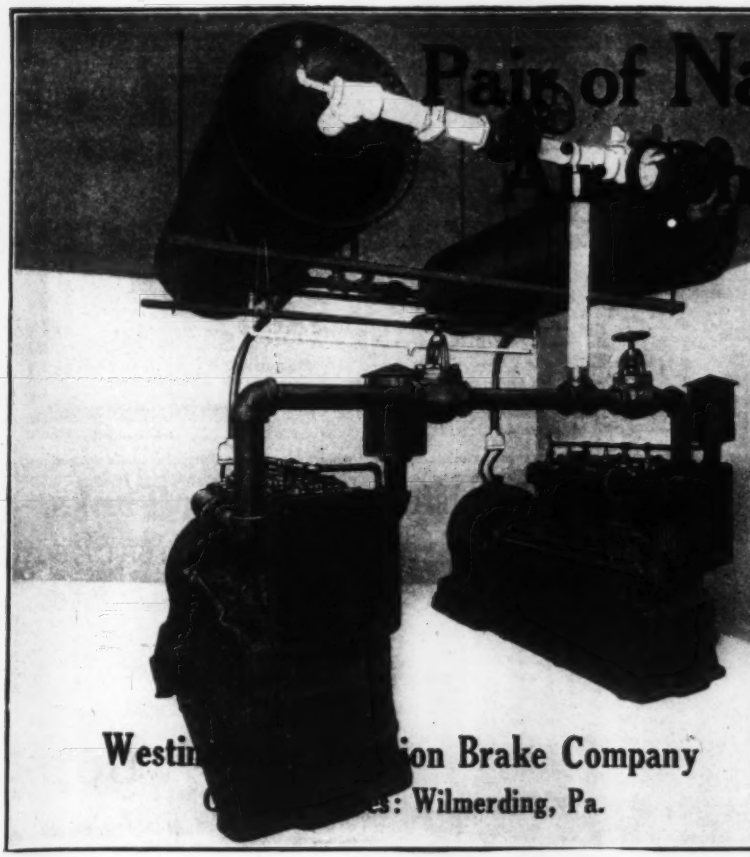

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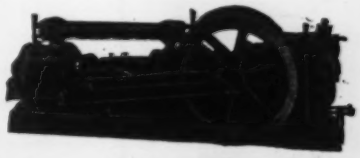

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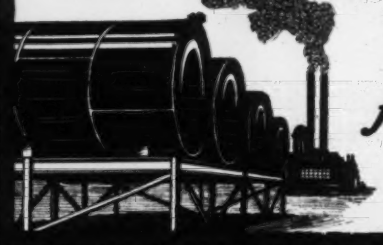

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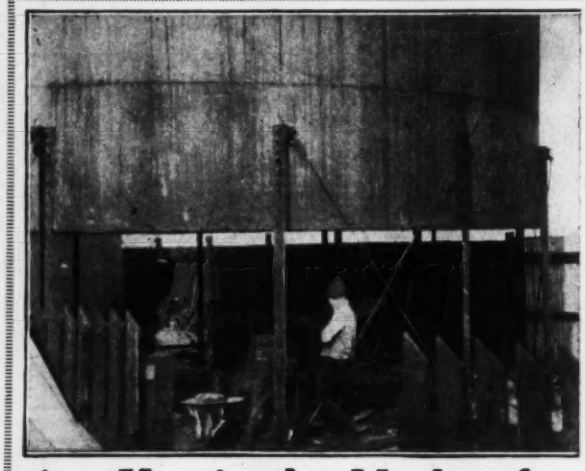

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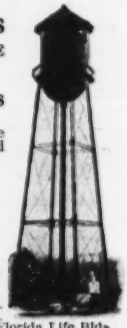

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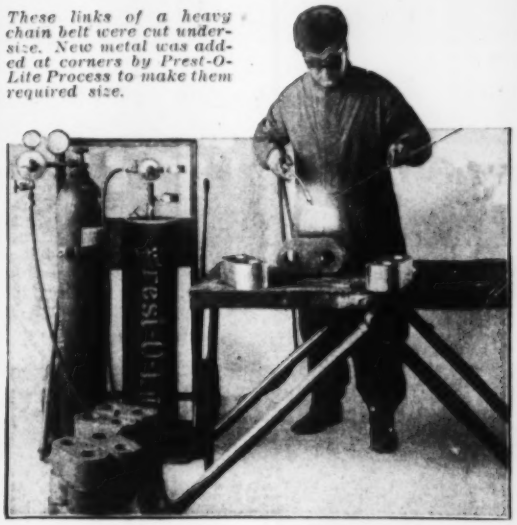

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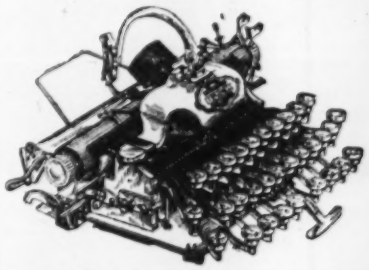

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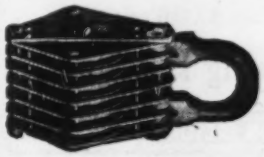

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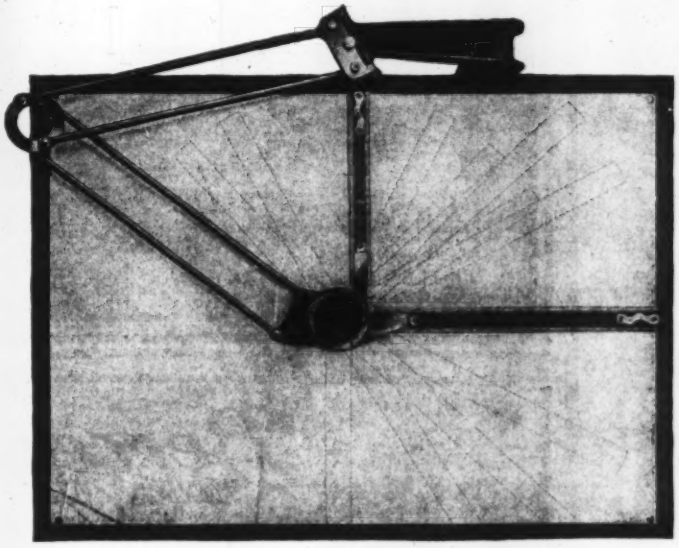

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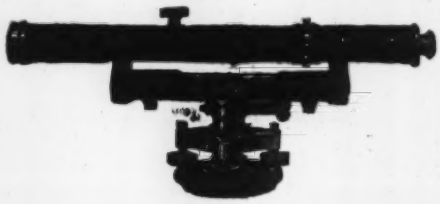

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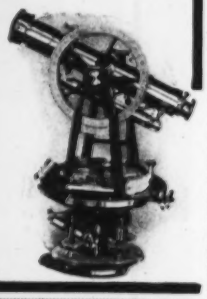

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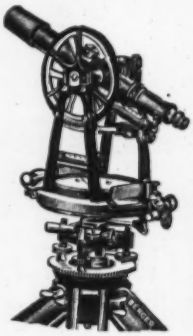

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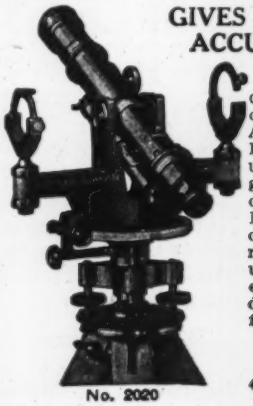

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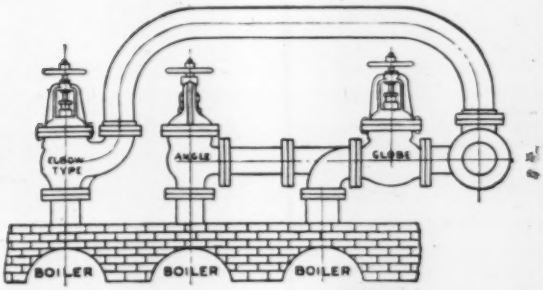

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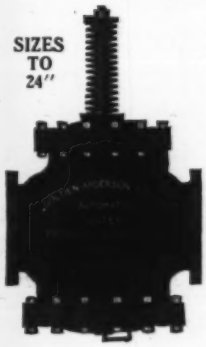


SIZES TO 24"

Automatic-Cushioned Water Pressure Reducing Valves

Reduce Automatically, High Pressure to Positive Low Pressure

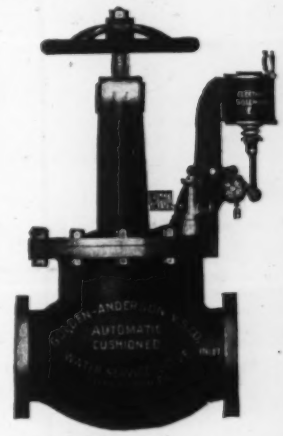
FEATURES

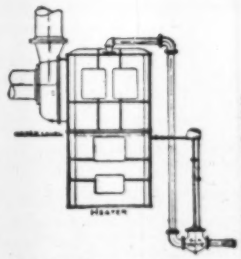
1. Safe Operating Piston makes it impossible for high pressure to enter into low pressure service. Makes accidents impossible.
2. Thoroughly cushioned — no hammering, chattering or sticking.
3. No auxiliary valves or small by-pass —Reliable and uninterrupted service.
4. Heavy throughout — Practically indestructible.
5. Only one adjustment—on the outside. Valve always accessible.

CUSHIONED WATER SERVICE VALVES "FOR FIRE SERVICE"

Electrically Operated From Distant Points

No waste of current as it is only on solenoid a few seconds on either opening or closing of valve.
May be closed and opened from remote points electrically; also hand operated.
Air and water cushioned. No metal-to-metal seats. Virtually indestructible.
Electric Solenoid Connected to Direct or Alternating Current for Continuous or Intermittent Service.



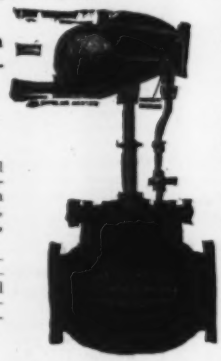


Feed Water Heater

Golden-Anderson Patent Automatic Cushioned Controlling Float Valves

Especially Adapted for Maintaining Uniform Water Level in Feed Water Heaters, Tanks, Reservoirs, Vats, etc.

No Water Wastes—Economic—Durable—Reliable—Air and Water Cushioned—Virtually Indestructible.



Patented Cushioned Automatic Controlling Altitude Valves

For Automatically Maintaining Uniform Stage of Water in Tank, Reservoir or Stand-pipes. Doing Away with the Annoyance of Floats or Fixtures, Inside or Outside. Especially Adapted for Water Works and Railroads.
"Three Ways of Closing These Valves."
1st—Automatically by water.
2nd—By Electricity, if desired.
3rd—By Hand.

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USERS OF CEMENT IN BULK ENDORSE THIS METHOD OF SHIPMENT AS PRACTICAL, ECONOMICAL AND EFFICIENT.

LABOR IS SAVED. Labor used in untying, emptying, shaking, sorting counting and bundling sacks for return shipment is eliminated.

KNOWLEDGE OF THE ADVANTAGES OF BULK SHIPMENTS leads to its use. Shipping cement in packages regardless of the nature of the job is only a habit.

COSTS ARE REDUCED. There is less outlay for material. Package costs and charges are eliminated. There is no freight to pay on returned sacks.

ECONOMIES ARE EFFECTED. No sacks are lost or stolen. No clerical work to keep track of sacks is necessary. Sack storage is done away with.

MONEY INVESTED YIELDS MORE RETURN. More concrete can be placed; accordingly all equipment earns more money.

EFFICIENCY IS INCREASED. With the same working force more concrete can be mixed and placed using bulk cement than when using sacked cement.

NO SACK INVESTMENT IS NECESSARY. It therefore costs less to finance the job and all money invested is working. Sack investments yield no return.

THIRTY YEARS' SUCCESSFUL USE proves that bulk cement is not an experiment. Its use can be adapted to almost any work of appreciable size.

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Raymond Concrete Pile Co.
Smith, Hauser & MacIsaac, Inc.
Struthers-Wells Co.
Underpinning and Foundation Co.

Foundry Supplies
(See Blast Furnaces and Fittings)

Frogs and Switches, Railway
(See also Tracks and Switches)
Lakewood Engineering Co.
Orenstein-Arthur Koppel Co.
Ramapo Iron Works

Furnaces, Garbage and Refuse
Bartlett & Snow Co.
Jeffrey Mfg. Co.
Power Specialty Co.

Furnaces, Gas
American Gas Furnace Co.

Furnaces, Lead
(See Pipe Line Supplies)

Furnace Smelting and Tempering
American Gas Furnace Co.

Gages, Recording
Bristol Co.
Sanborn Co.

Garbage Crematories
(See Furnaces, Garbage and Refuse)

Gas Holders
Des Moines Bridge & Iron Co.
Graver Tank Works, Wm. B.
Petroleum Iron Works
Riter-Conley Co.
Wood & Co., R. D.

Gas Producers
Improved Equipment Co.
Riter-Conley Co.
Wood & Co., R. D.
Worthington Pump & Machy. Corp.

Gas Works Construction
American Pipe & Cons. Co.
Riter-Conley Co.

Gaskets
(See also Steam Specialties)
Badger & Sons Co., E. B.

Gates and Valves
Coffin Valve Co.
Coldwell-Wilcox Co.
Jenkins Bros.
Ross Valve Mfg. Co.
Wood & Co., R. D.

Gates, Ore Bin
Insley Mfg. Co.
Traylor Eng'g & Mfg. Co.

Gears
Chain Belt Co.
De Laval Steam Turbine Co.
Sturtevant Co., B. F.

Glass, Fireproof
Mississippi Wire Glass Co.

Governors, Water Wheel
Pelton Water Wheel Co.
Woodward Governor Co.

Graders, Elevating
Austin Mfg. Co.

Equipment and Materials Sold by Advertisers in This Issue

Pile On Your Overload!

Big husky equipment that walks away with an extra ton or more of overload without a quiver—that's the WATSON TRACTORTRUCK.

If you pile its heavy platform body with six tons instead of the "capacity" five tons, there's no damage and no danger.

The WATSON TRACTORTRUCK is built to *stand* overloads.

Our quarter-century knowledge of the Contractor, his plant and his *work*—stands back of the WATSON TRACTOR-TRUCK.

We built the strength into her. You need equipment that *stands up* when a hitch slips and a girder comes battering down on its deck.

Look up its pedigree—100% Watson—built and guaranteed by Watson—"Wagon Builder to the American Contractor."

Write for full details of its construction.

Watson Wagon Co.
20 West Centre St.,
Canastota, N. Y.

Austin Western Rd. Mchy. Co.
Western Wheeled Scraper Co.

Granite
Rockport Granite Co.

Graphite
Dixon Crucible Co., Jos.

Grating, Subway
Irving Iron Works

Gravel Washing Plants
Dull Co., Raymond W.

Grinding Machinery
(See Crushers and Pulverizers)

Hammers, Pile Driving
(See Pile Driving Machinery)

Hammers, Pneumatic
(See Tools, Pneumatic)

Headgates
Coffin Valve Co.

Heaters, Feet Water
Alberger Pump & Condenser Co.
Platt Iron Works
Worthington Pump & Mchry. Corp.

Heating Machines for Smelting
American Gas Furnace Co.

Hoisting Drums
Hayward Co.

Hoists, Chain
Yale & Towne Mfg. Co.

Hoists, Concrete
Dake Engine Co.
Insley Mfg. Co.
Lakewood Eng'g Co.
Ransome Concrete Machy. Co.

Hoists, Electric, Gasoline and Steam
Buffalo Contractors Plant Corp.
Byers Mach. Co., J. F.
Clyde Iron Works
Dobbie Foundry & Mach. Co.
Flory Mfg. Co., S.
General Electric Co.
Lakewood Engineering Co.
Lansing-Co.
Lidgerwood Mfg. Co.
Marsh-Capron Mfg. Co.
Minneapolis Stl. & Mchry. Co.
Mundy Hoisting Engine Co., J. S.
O. K. Clutch & Machy. Co.
Orton & Steinbrenner Co.
Pawling & Harnischfeger Co.
Ransome Concrete Machy. Co.
Smith Co., T. L.
Standard Scale & Supply Co.
Thomas Elevator Co.

Hoists, Gates
Whiting Fdry. Equipment Co.

Hoists, Hand
Buffalo Contractors Plant, Corp.
Thomas Elevator Co.

Hoists, Headgate
Coffin Valve Co.
Coldwell-Wilcox Co.

Hoists, Pneumatic
Dake Engine Co.
Ingersoll-Rand Co.

Hoists, Rock
Schramm & Son, Chris. D.

Hooks, Hoist and Wire Ropes
American Steel & Wire Co.
Leschen & Sons Rope Co., A.
Wright Wire Co.

Hose
Edson Mfg. Co.

Hose, Metallic
American Metal Hose Co.
Penn. Flexible Metallic Tubing Co.

Hydrants
Darling Pump Mfg. Co.
Eddy Valve Co.
Fox & Co., John
Norwood Engineering Co.
Pacific Tank & Pipe Co.
Pittsburgh Filter Mfg. Co.
Rensselaer Valve Co.
Ross Valve Mfg. Co.
Smith Mfg. Co., A. P.
Wood Co., R. D.

Hydraulic Machinery
Watson-Stillman Co.

Indicator Posts
Builders Iron Foundry
Darling Pump Mfg. Co.

Injectors
Jenkins Bros.

Inserts, Concrete
Medina Machine Co.
Security Insert Co.
Trussed Con. Steel Co.

Equipment and Materials Sold by Advertisers in This Issue

Inspecting
(See Directory of Engineers)

Instruments, Engineers'
(See Engineers' and Draftsmen's Instruments)

Iron
Jeffrey Mfg. Co.

Ironwork, Architectural and Ornamental
(See also Structural Steel)
Berlin Construction Co.
Boston Bridge Works
Christopher & Simpson Iron Works
Minneapolis Steel & Mch. Co.
Phoenix Bridge Co.
Wisconsin Bridge & Iron Co.

Jacks
McKiernan-Terry Drill Co.
Norton, Inc., A. C.

Joint Filler, Paving
Barber Asphalt Paving Co.
Barrett Co., The
Carey Co., Philip
Standard Oil Co. of N. Y.
Waring Underwood Co., The

Joints, Expansion, Copper
Badger & Sons, E. B.

Joints, Expansion, Paving
Baker Co., R. D.
Barrett Co., The
Carey Co., Philip
Trussed Concrete Steel Co.
Waring Underwood Co., The

Joints, Flexible
Coldwell-Wilcox Co.
Crane Co.

Kettles, Melting
(See Asphalt Plants and Tools; also Pipe Line Supplies)

Kilns, Drying
Riter-Conley Co.
Traylor Engr. & Mfg. Co.
Vulcan Iron Works, Wilkes-Barre

Kilns, Lime
Improved Equipment Co.
Riter-Conley Co.
Traylor Engr. & Mfg. Co.
Vulcan Iron Works, Wilkes-Barre
Worthington Pump & Mchry. Corp.

Laboratories
(See Testing Laboratories)

Lamp Posts
Fox & Co., John

Lamps, Arc and Incandescent
General Electric Co.

Lath, Metal
Consolidated Expanded Metal Cos.
General Fireproofing Co.
North Western Expanded Metal Co.
Trussed Concrete Steel Co.

Lead Pencils
(See also Engineers' and Draftsmen's Instruments and Supplies)
Dixon Crucible Co.

Leadite
Leadite Co., Inc.

Lights, Portable
Carbic Mfg. Co.
Milburn Co., Alexander F.

Lime, Hydrated
Hydrated Lime Bureau

Loaders, Wagon
Bonney Supply Co.
Gifford-Wood Co.
Haiss Mfg. Co., Inc., Geo.
Jeffrey Mfg. Co.

Locomotives
American Locomotive Co.
Bell Locomotive Works, Inc.
Fate Co., J. D.
General Electric Co.
Goodman Mfg. Co.
Jeffrey Mfg. Co.
Porter Co., H. K.
Vulcan Iron Works, Wilkes-Barre,
Westinghouse Electric & Mfg. Co.

Locomotives, Electric
American Locomotive Co.
Bell Locomotive Works, Inc.
General Electric Co.
Goodman Mfg. Co.
Westinghouse Electric & Mfg. Co.

Locomotives, Gasoline
Bell Locomotive Works, Inc.
Fate Co., J. D.
Ridgway, J. A.

Locomotives, Industrial
American Locomotive Co.
Bell Locomotive Works, Inc.
Fate Co., J. D.
Jeffrey Mfg. Co.
Porter Co., H. K.
Ridgway, J. A.
Vulcan Iron Works, Wilkes-Barre,

Locomotives, Steam
American Locomotive Co.
Bell Locomotive Works, Inc.
Porter Co., H. K.
Vulcan Iron Works, Wilkes-Barre,

Logging Outfits
Clyde Iron Works
Lidgerwood Mfg. Co.
Parsons Co., The

Lubricants
Dixon Crucible Co., Jos.
Greene, Tweed & Co.
Texas Company, The

Lumber
Bowers Co., S. P.

Machinery and Equipment, Second-Hand
(See also advts. in Searchlight Section)
Buffalo Contractors Pl't Corp.

Machinery, Steam
Thew Automatic Shovel Co.

Manganese, Bronze
American Manganese Bronze Co.

Manhole Covers
(See also Castings, Iron)
Bissell Co., F.
Fox & Co., John
Lynchburg Foundry Co.
Sessions Fdry. Co.

Marine Hardware and Equipment
Boston & Lockport Blk. Co.

Mechanical Rubber Goods
Jenkins Bros.

Metaline
Metaline Co., The

Metallic Doors and Sash
(See Window Frames, Fireproof)

Metal Lath
Berger Mfg. Co.
Mitchell-Tappen Co.
Witherow Steel Co.

Metal, Lumber
Berger Mfg. Co.

Metals, Perforated
Chicago Perforating Co.

Meter Box Covers
Buffalo Meter Co.
Builders Iron Foundry
Cast Iron Pipe Publ'y Bureau
Ford Meter Box Co.
Lynchburg Fdry. Co.
Pittsburgh Meter Co.
U. S. C. I. Pipe & Fdry. Co.

Meter Boxes
Ford Meter Box Co.

Meter Provers
Builders Iron Foundry
Hersey Mfg. Co.
Pittsburgh Meter Co.

Meters, Current
Ritchie & Sons, E. S.
Gurley, W. & L. E.

Meter Testing Machines
Ford Meter Box Co.

Meters, Irrigation
Hydrometric Co.

Meters, Water, Oil and Gas
Buffalo Meter Co.
Builders Iron Foundry
General Electric Co.
Hersey Mfg. Co.
Neptune Meter Co.
Pittsburgh Meter Co.
Ritchie & Sons, E. S.
Simplex Valve & Meter Co.
Tompson Meter Co.
Union Water Meter Co.
Worthington Pump & Mchry. Co.

Mining Machinery
Allis-Chalmers Mfg. Co.
Ingersoll-Rand Co.
McKiernan-Terry Drill Co.
Sullivan Mchry. Co.
Thew Auto. Shovel Co.
Traylor Engr. & Mfg. Co.
Worthington Pump & Machy. Corp.

Mixers, Asphalt
Marsh-Capron Mfg. Co.
Ransome Concrete Machy. Co.
Smith Co., T. L.
Worthington Pump & Mchry. Corp.

Mixers, Cement and Concrete
American Cement Machine Co.
Automatic Concrete Mixer Co.
Bond Co., Harold L.
Chain Belt Co.
Concrete Mixing & Placing Co.
Eureka Machine Co.
Foote Concrete Mchry. Co.
Kent Machine Co.
Knickerbocker Co.
Lansing-Co.
Lakewood Eng'g Co.
Marsh-Capron Mfg. Co.
Municipal Eng'g & Contr. Co.
Northwestern Steel & Iron Works
Pneumatic Placing Co.
Ransome Concrete Machy. Co.
Sampson, G. H.
Smith Co., T. L.
Standard Scale & Supply Co.
Waterloo Cement Mchry. Co.
Worthington Pump & Mchry. Corp.

Mixers, Grout
Ransome Concrete & Mchry. Co.

Mixers, Mortar
American Cement Machine Co.
C. H & E. Co.
Chain Belt Co.
Eureka Machine Co.
Kent Machine Co.
Knickerbocker Co.
Lakewood Eng'g Co.
Lansing-Co.
Marsh-Capron Mfg. Co.
Municipal Eng'g & Contr. Co.
Northwestern Steel & Iron Works
Ransome Concrete Machy. Co.
Smith Co., T. L.
Standard Scale & Supply Co.
Waterloo Cement Mchry. Corp.

Molds, Pipe and Culvert
Blaw Steel Constr. Co.
Foote Concrete Machy. Co.

Motors, Electric
Bissell Co., F.
General Electric Co.

Motor Trucks
International Motor Truck Co.
Kissel Motor Car Co.
Service Motor Truck Co.
Smith Motor Truck Corp.
U. S. Motor Truck Co.
Watson Wagon Co.

Nails, Wire and Cut
American Steel & Wire Co.

Netting, Wire
American Steel & Wire Co.

Nozzles, Spray and Aërating
Morse & Son, A. & J.

Nuts, Clevis
Merrill Bros.

Oil, Lubricating
Texas Company, The

Oil, Road
(See Road Oils)

Overhead Tramrail Systems
Brown Hoisting Mchry. Co.

Packing
Jenkins Bros.

Packing, Water-Pipe
Greene, Tweed & Co.
Leadite Co., Inc.

Paints
Trussed Con. Laboratories

Paints and Metal Coatings
Barrett Co., The
Corrugated Bar Co.
Dixon Crucible Co., Jos.
Maritimo Coating Corp.
Minwax Co., Inc.
Toch Bros.
Trussed Con. Laboratories

Paints, Asphalt
Barber Asphalt Paving Co.

Paints, Steel Protective
(See Paints and Metal Coatings)

Paper, Drafting and Tracing
Cardinell-Vinvent Co.
St. George, Henry V.

GOODRICH

TRUCK TIRES

Long Mileage;
Freedom From Trouble;
Backed by the Biggest
System of Service Stations
in the United States

Look for the Sign of Goodrich Service

EVERY important trucking center has its GOODRICH Service Station, amply stocked with truck tires of all sizes and equipped for their prompt removal and application.

Good Intentions do not produce Good Service. Size Counts.

This unparalleled organization maintained by the World's Largest Rubber Factory is at your command.

GOODRICH Service means less "time-out" for your trucks.

GOODRICH Truck Tires keep your trucks on the job.

THE B.F. GOODRICH COMPANY

AKRON, OHIO

TRADE MARK

Equipment and Materials Sold by Advertisers in This Issue

Pavements
Amies Road Co.
Barber Asphalt Paving Co.
Barrett Co., The
Bito Slag Paving Co.
Dunn Wire-Cut Lug Brick Co.
National Paving Brick Mfrs. Assn.
Republic Creosoting Co.
Warren Bros. Co.

Paving Blocks, Granite
Jennison-Wright Co.
Leopold, J. E.
Rockport Granite Co.

Paving Blocks, Wood
American Creosoting Co.
Barber Asphalt Paving Co.
Barrett Co., The
Republic Creosoting Co.
South. Wood Preserv. Co.
Wyckoff Pipe & Creo. Co.

Penstocks
(See Steel Plate Construction; also Pipe Riveted Steel; also Pipe Wood)

Pile Bands
Weldless Pile Band Co.

Pile Drivers
McKiernan-Terry Drill Co.

Pile Driving
Rhodes & Manvel, Inc.

Pile Driving Machinery
Buffalo Contractors Plant Corp.
Clyde Iron Works
Edson Mfg. Co.
Flory Mfg. Co., S.
Industrial Works
Lidgerwood Mfg. Co.
National Hoisting Engine Co.
Union Iron Works
Vulcan Iron Works

Pile, Shoes
Janney-Steinmetz Co.
Vulcan Iron Works, Chicago

Piles, Concrete
Foundation Co.
MacArthur Conc. P. & F. Co.
Raymond Con. Pile Co.
Smith, Hauser & MacIsaac, Inc.
Underpinning & Found. Co.

Piles, Creosoted
Barber Asphalt Paving Co.
Republic Creosoting Co.
Underpinning & Found. Co.
Wyckoff Pipe & Creo. Co.

Piles, Wood
Berlin Mills Co.
Bowers Co., S. P.
Rhodes & Manvel, Inc.

Piling
Jennison-Wright Co.

Piling, Concrete
Cranford Constr. Co.

Piling, Interlocking Steel
Carnegie Steel Co.
Lackawanna Steel Co.
Mitchell-Tappen Co.
Underpinning Foundation Co.

Pipe Bends
East Jersey Pipe Co.

Pipe, Cast-Iron
American Cast Iron Pipe Co.
Cast Iron Pipe Pub'ly Bureau
Central Foundry Co.
Fox & Co., John
Lynchburg Fdry. Co.
Standard C. I. P. & Fdry. Co.
U. S. C. I. Pipe & Fdry. Co.
Warren Fdry. & Mach. Co.
Wood & Co., R. D.

Pipe Culverts
(See Culverts)

Pipe, Dredge
Machold & Riddell

Pipe Fittings
American Spiral Pipe Works
Lynchburg Foundry Co.
Warren Fdry. & Mach. Co.

Pipe, Flanged
Warren Fdry. & Mach. Co.

Pipe, Lap Welded
American Spiral Pipe Works

Pipe Line Supplies
Union Iron Works

Pipe, Lock Bar
East Jersey Pipe Corp.

Pipe, Reinforced Concrete
Lock Joint Pipe Co.
Trussed Con. Steel Co.

Pipe, Riveted Steel
American Bridge Co.
Chicago Bridge & Iron Works
Des Moines Bridge & Iron Co.
East Jersey Pipe Corp.
Mitchell-Tappen Co.
Pittsburgh-Des Moines Stl. Co.
Riter-Conley Co.
Struthers-Wells Co.

Pipe, Segmental
Robinson Clay Product Co.

Pipe, Spiral Riveted
Abrendroth & Root Mfg. Co.

Pipe, Steel
Graver Tank Works, Wm. B.

Pipe, Vitrified Clay and Sewer
Robinson Clay Product Co.

Pipe, Wood
Michigan Pipe Co.
National Tank & Pipe Co.
Pacific Tank & Pipe Co.
Portland Wood Pipe Co.
Standard Wood Pipe Co.
Washington Pipe & Fdry. Co.
Wyckoff & Son Co., A.
Wyckoff Pipe & Creo. Co.

Pipe, Wrought Iron
American Pipe & Cons. Co.
Byers Co., A. M.

Piping, Power Plant, Bends, Flanges, Fittings, Etc.
East Jersey Pipe Corp.
Fox & Co., John
Kellogg & Co., M. W.

Plates, Steel
(See also Steel Plate Construction)
Carnegie Steel Co.
Chicago Bridge & Iron Works
Christopher & Simpson Iron Works
Lackawanna Steel Co.

Plates, Tin and Terne
Am. Sheet & Tin Plate Co.

Pneumatic Tools
(See Tools, Pneumatic)

Poles, Cross Arms, Etc.
Jennison-Wright Co.

Poles, Tubular Steel
Byers Co., A. M.
Franklin Steel Works

Power Transmission Machinery
General Electric Co.
Hunt Co., C. W.
Jeffrey Mfg. Co.
Webster Mfg. Co.

Pressed Steel Cores
Berger Mfg Co.

Pulverizers
(See Crushers and Pulverizers)

Pumping Engines
(See Engines, High Duty Pumping)

Pumps, Air Lift
Emerson Pump & Valve Co.
Worthington Pump & Machy. Corp.

Pumps, Boiler Feed
American Well Works, The
Cameron Steam Pump Works
Dean Bros. Steam Pump Works
Gardner Governor Co.
Goulds Mfg. Co.
Morris Machine Works
Worthington Pump & Machy. Corp.

Pumps, Centrifugal and Turbine
Alberger Pump Condenser Co.
Allis-Chalmers Mfg. Co.
American Well Works, The
C. H. & E. Mfg. Co
Cameron Steam Pump Works
Darling Pump & Mfg. Co.
De Laval Steam Turbine Co.
Deming Co.
Earle Gear & Machine Co.
Goulds Mfg. Co.
Lawrence Pump & Engine Co.
Layne & Bowler Co.
Lawrence Machine Co.
Morris Machine Works
Pelton Water Wheel Co.
Platt Iron Works
Twinvolute Pump & Mfg. Co.
Watson-Stillman Co.
Whitman Co., A.
Wood & Co., R. D.
Worthington Pump & Machy. Corp.

Pumps, Contractors'
American Well Works, The
Bond Co., Harold L.
Cameron Steam Pumps Co.
Earle Gear & Machine Co.
Edson Mfg. Co.
Emerson Pump & Valve Co.
Gardner Governor Co.
Hinman & Co., D. A.
Morris Machine Works
Nye Steam Pump & Mchry. Co.
Schramm & Son, Chris. D.
Standard Scale & Supply Co.
Van Nouhuys Mach. Works
Worthington Pump & Machy. Corp.

Pumps, Deep Well
American Well Works, The
Cameron Steam Pump Works
Cook, A. D.
Dean Bros. Steam Pump Wks.
Deming Co.
Earle Gear & Machine Co.
Goulds Mfg. Co.
Keystone Driller Co.
Luitwieler Pumping Engine Co.
Pelton Water Wheel Co.
Twinvolute Pump & Mfg. Co.
Worthington Pump & Machy. Corp.

Pumps, Diaphragm
Bond Co., Harold L.
Boston & Lockport Blk. Co.
Cameron Steam Pump Works
Deming Co.
Edson Mfg. Co.
Goulds Mfg. Co.
Hinman, & Co., D. A.
Morris Machine Works
Oshkosh Mfg. Co.
Parker, A. A.
Van Nouhuys Mach. Wks.

Pumps, Elevator
Worthington Pump & Machy. Corp.

Pumps, Fire

Pumps, Gasoline, Portable
American Well Works, The
Bond Co., Harold L.
Edson Mfg. Co.
Hinman & Co., D. A.
Paker, A. A.
Schramm & Son, Chris D.
Worthington Pump & Machy. Corp.

Pumps, Mine
American Well Works, The
Cameron Steam Pump Works
Dean Bros. Steam Pump Wks.
Earle Gear & Machine Co.
Goulds Mfg. Co.
Layne & Bowler Co.
Morris Machine Works
Nye Steam Pump & Mchy. Co.
Twinvolute Pump & Mfg. Co.
Worthington Pump & Machy. Corp.

Pumps, Portable
Schramm & Son, Chris. D.

Pumps, Power
American Well Works, The
Cameron Steam Pump Co.
Cook, A. D.
Dean Bros. Steam Pump Wks.
Layne & Bowler Co.
Luitwieler Pumping Engine Co.
McGowan Co., John H.
Morris Machine Works
Parker, A. A.
Platt Iron Works
Rumsey Pump Co.
Twinvolute Pump & Mfg. Co.
Worthington Pump & Machy. Corp.

Pumps, Sand
Marion Steam Shovel Co.
Morris Machine Works
Nye Steam Pump & Mchry. Co.
Parker, A. A.
Traylor Eng'g & Mfg. Co.
Worthington Pump & Machy. Corp.

Pumps, Steam
American Well Works, The
Cameron Steam Pump Works
Dean Bros. Steam Pump Works
Deming Co.
Emerson Pump Valve Co.
Gardner Governor Co.
McGowan, Co., John H.
Nye Steam Pump & Mchry. Co.
Parker, A. A.
Platt Iron Works
Twinvolute Pump & Mfg. Co.
Worthington Pump & Machy. Corp.

Pumps, Trench
Whitman Co., A.
Worthington Pump & Machy. Corp.

Pumps, Turbine
Alberger Pump & Condenser Co.

Pumps, Underwriters' Fire
American Well Works, The
Worthington Pump & Machy. Corp.

Pumps, Vacuum
Cameron Steam Pump Works
Nye Steam Pump & Mchy. Co.
Worthington Pump & Machy. Corp.

Pumps, Water-Works
American Well Works, The
Cameron Steam Pumps Co.
Earle Gear & Machine Co.
Layne & Bowler Co.
Morris Machine Works
Pelton Water Wheel Co.
Twinvolute Pump & Mfg. Co.
Worthington Pump & Machy. Corp.

Pumps, Wind Mill
Deming Co.

Punches, Beam and Angle
Watson-Stillman Co.

Quarry Machinery
Bond Co., Harold L.
Ingersoll-Rand Co.
Marion Steam Shovel Co.
Sullivan Machry. Co.
Worthington Pump & Machy. Corp.

Rail and Rail Joints, Fastening and Specialties
Bethlehem Steel Co.
Carnegie Steel Co.
Lackawanna Steel Co.
Orenstein-Arthur Koppel Co.

Railways, Industrial
Hunt Co., C. W.
Lakewood Eng'g Co.
Orenstein-Arthur Koppel Co.

Rams, Hydraulic
Deming Co.
Goulds Mfg. Co.

Recorders
Sanborn Co.

Registers, Water Stage
Gurley, W. & L. E.
Sanborn Co.

Reinforced-Concrete Work
(See Concrete Construction)

Reinforcing Metal for Concrete Work
American Steel & Wire Co.
Brown Hoisting Machry. Co.
Concrete Steel Co.
Consolidated Expanded Metal Cos.
Corrugated Bar Co.
Electric Welding Co.
Laclede Steel Co.
Mitchell-Tappen Co.
North Western Expanded Metal Co.
Trussed Con. Steel Co.
Witherow Steel Co.
Wright Wire Co.

Reservoirs, Aërating
Spray Engineering Co.

River and Harbor Work
Atlantic, Gulf & Pacific Co.
Raymond Concr. Pile Co.
Rhodes & Manvel, Inc.

Riveters, Pneumatic
(See Tools, Pneumatic)

Road Machinery
Austin Mfg. Co.
Austin Western Rd. Mchry. Co.
Buffalo-Springfield Roller Co.
Case T. M. Co., J. I.
Erie Machine Shops
Keystone Driller Co.
Marion Steam Shovel Co.
Thew Automatic Shovel Co.
Western Wheeled Scraper Co.

Road Oils and Preservatives
Barber Asphalt Paving Co.
Barrett Co., The
Standard Oil Co. of N. Y.

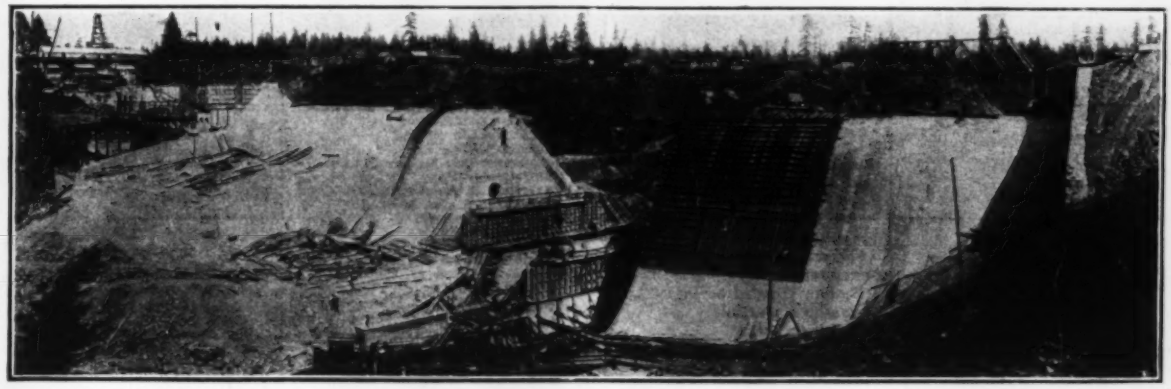
Rollers, Road
Austin Mfg. Co.
Austin-Western Rd. Machry Co.
Buffalo-Springfield Roller Co.
Case T. M. Co., J. I.
Erie Machine Shops

Rolls, Crushing
Buchanan Co., Inc., C. G.

Roofing
Amer. Cement Tile Mfg. Co.
Barber Asphalt Paving Co.
Barrett Co., The
Stark Rolling Mills Co.
Texas Company, The

AMBURSEN Dams During Construction

This type of structure has been used for all heights up to 150 feet and for all classes of foundation. It can be built in less time and for less money than any other permanent type.



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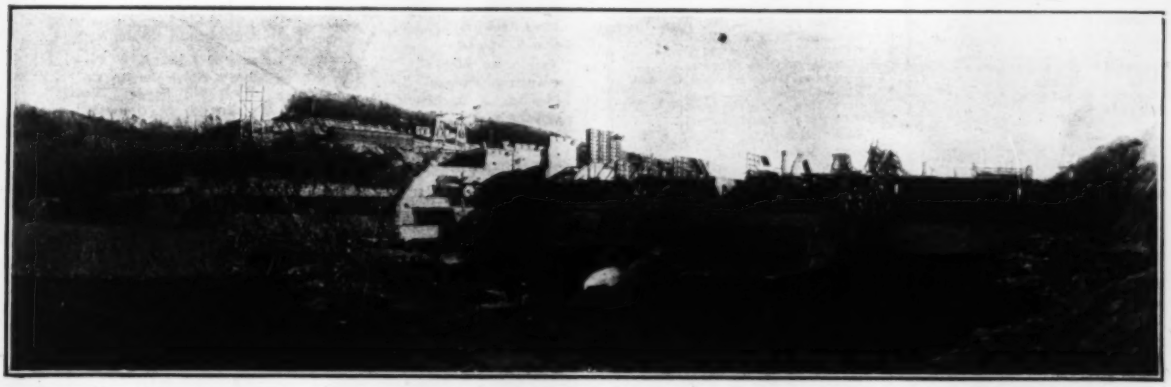

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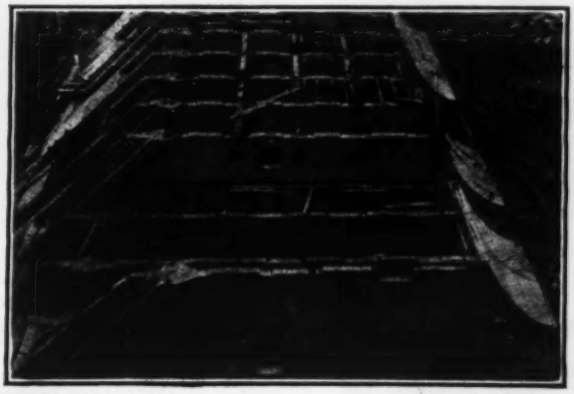

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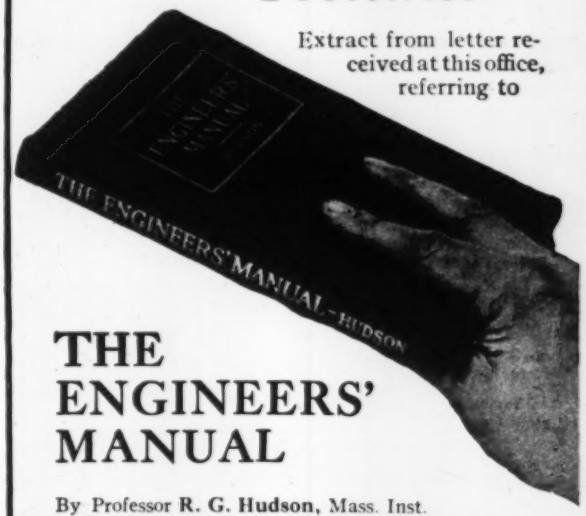

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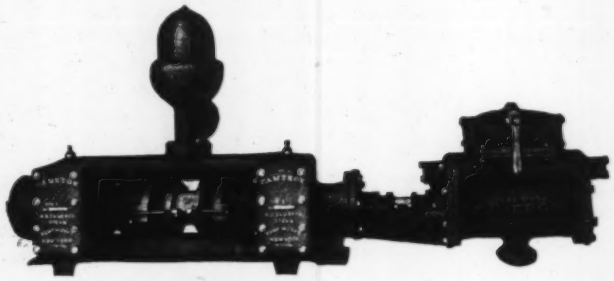

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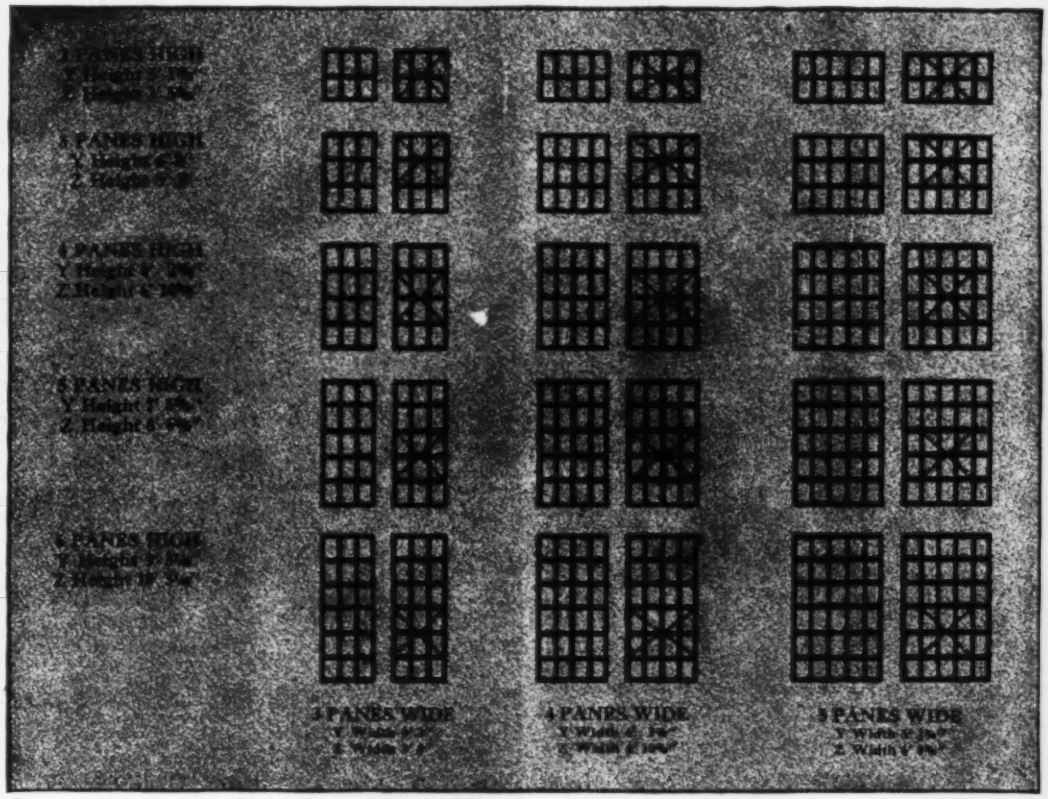

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AMERICAN

The Kind of Pump Quality That Commands Satisfaction

In nearly every "American" pump advertisement an actual pump installation is shown. Moreover the name and complete address of the owner is given so that anyone can verify every claim we make in reference to "American" pumps.

During the last two years about 100 pump installations have been shown and in nearly every advertisement the characteristics of the pump are given. In this time there has never been a question that we claimed an efficiency that we could not prove.

The fact is "American" pumps possess a quality of which we are not ashamed. It is our faith in that quality that impels us to constantly offer you the opportunity to prove our statements.

The above illustration shows two views of a pump installed by us about two years ago in the Blue Island Power Plant of the Public Service Company of Northern Illinois.

This unit is an "American" 6 in., Type D S T D, horizontal single stage, double suction centrifugal pump, completely bronze fitted, driven by a 53 h.p., horizontally split shell, Kerr steam turbine, operating non-condensing. The pump is designed to deliver 1000 g.p.m. when operated at 2400 r.p.m. and takes water from the river and delivers it into the general distributing system of the plant.

The owners report the pump is giving excellent service. It is our knowledge that this pump possesses the quality that will command satisfaction that induces us to give the name of the owner just as we are constantly doing of a different installation each week in all our advertising.

Catalog 132 describes about 50 styles of American Centrifugal Pumps. Write for it.

The American Well Works

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Simple Open-Tank Creosoting-Plant. Tank 2 ft. 6 in. deep, 4 ft. wide and 22 ft. long, constructed entirely of wood and lined with galvanized sheet iron, soldered at all joints. Used for treatment of timbers and boards for roof over machine-room of paper-mill.

8 x 12 in. timber destroyed by decay after nine years' service in paper-mill.

Open-Tank Creosoting-Plant. Note the steam supply-pipes in the foreground and the steam-pipes in bottom of tank arranged in two coils of three lengths each; also the overhead two-ton chain-block traveling-hoists.

"Fungous Growths Destroy Many Wooden Roofs

"New England Structures Suffer Heavy Damage from Dry-Rot"

The above quotation is the caption of an article which appeared in the *American Lumberman*, issue of January 6, 1917, describing in detail the large loss, due to decay, of roof-boards and timbers in cotton- and paper-mills.

Creosoting such material properly will prevent this loss and probably more than double the life of roofs so exposed. This may be done by the Open-Tank system of treatment, which is economical and adaptable to nearly all conditions.

Barrett's TRADE B MARK Carbosota Grade-One Liquid Creosote Oil

Creosoted wood *does not increase* the fire-hazard. When thoroughly seasoned after treatment it will not ignite more readily than untreated wood, and in fact treatment with creosote tends to retard combustion.

Lumber creosoted by the Open-Tank system with a proper grade of refined coal-tar creosote oil will not bleed or exude oil when exposed to the high temperatures prevalent in machine-rooms of paper-mills and weave-sheds of cotton-mills.

" * * * a heavy plank roof is the ideal covering for a cotton-weave shed, provided that it won't rot." (Quoted from article mentioned.)

It Won't Rot if Properly Creosoted.

CARBOSOTA—Grade-One Liquid Creosote Oil is derived from pure coal-tar and refined especially for use by the Brush method and in the Open-Tank system of treatment. It is universally recognized as the "standard" and specified by the largest consumers.

(Note: It is necessary that all wood to be treated by the Brush or Open-Tank methods should be seasoned until air-dry.)

Booklet regarding the CARBOSOTA *treatment free on request.*

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